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ANNUAL REPORT

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DEPARTMENT OF PUBLIC WORKS

OF THE

NORTH-WEST TERRITORIES

1900

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ANNUAL REPORT
OF THE
DEPARTMENT OF PUBLIC WORKS
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DEPARTMENT OF PUBLIC WORKS,

REGINA, February 26th, 1901.

To His Honour

AMÉDÉE EMMANUEL FORGET,

Lieutenant Governor of the North-West Territories.

SIR,—

I have the honour to transmit herewith the Annual Report of the Department of Public Works for the year 1900.

I have the honour to be, Sir,

Your obedient servant,

J. H. ROSS,

Commissioner of Public Works.

CONTENTS.

	PAGE
Correspondence branch	8
The Coal Mines Regulation Ordinance	9
Accountant's branch	18
The Steam Boilers Ordinance	20
Survey branch	32
Engineering branch	41
Local Improvement branch	59
Villages	89
Irrigation branch	91
Index	95

DEPARTMENT OF PUBLIC WORKS,

REGINA, *January 5th, 1901.*

JAMES H. ROSS, Esq., M.L.A.,

Commissioner of Public Works.

SIR, — I have the honour to submit the annual report of the Department of Public Works for the year 1900.

The past year proved a very busy one for the Department, our operations being extended in all the services which we administer, and in several directions twice the amount of work was undertaken that had been attempted during any previous year since its organisation.

The season during which public works can be undertaken is, at best, during any year, short, and the weather during that season has, therefore, much to do with the rapid and successful completion of the work.

During the past year, in the eastern and southern portions of the Territories, the season was dry and particularly suited to outside work, but in Northern Alberta and Saskatchewan the exceptional rainfall seriously interfered with and delayed the completion of our public works, and in many instances the attempt to grade or repair roads had to be abandoned.

The question of road improvements is dealt with fully under its proper heading further on in this report, but in view of the criticism to which the Department has been subjected in some quarters during the past year, owing to delay in improving roads rendered impassable by the excessive rains, I would direct attention to the fact that the very condition which has rendered these roads impassable has prevented any steps being taken toward their improvement. All our public roads in the Territories are earth roads, constructed either by borrowing earth from the adjoining ditches or from hills cut down to improve the grades; and it should be apparent to even a casual observer that the excessive rains which render roads of that character impassable also preclude the improvement of the roads by attempting to move the wet earth from ditches or cuts for the purpose of resurfacing the road bed. It is quite natural that people who find it difficult to travel over these earth roads during the wet season, even without any loads, should grumble at their condition, but it must be realised that any attempt to improve such roads during these seasons, except by filling in particularly bad spots with brush or some other nonsoluble material, and by repairing existing or providing new culverts, can only result in a waste of money. And it must also be clearly understood by all that

earth roads which have no surface of gravel or other material which will shed the water will always be bad roads to travel on in wet weather, and during exceptionally wet seasons will become practically impassable.

Owing to the special vote by Parliament last year of the sum of \$92,000.00 to repair the serious damage to public works in the Territories resulting from the floods which occurred during 1899, the Department was able to undertake a very extensive system of repairs in all parts of the Territories, and that expenditure, together with the work performed in the large and small Local Improvement Districts, dealt with in detail further on, enabled us to put all damaged structures in a proper state of repair.

In dealing in a detailed manner with the operations of the Department during the past year the subdivision of work adopted in the last annual report has been followed, the work of the Correspondence Branch being first referred to.

CORRESPONDENCE BRANCH.

Staff	{ 1 correspondence clerk.
	{ 2 stenographers and typewriters.

The fact that the volume of correspondence dealt with by a Department is a fair indication of the general work of a Department has been referred to in previous reports; but, as there is a tendency to criticise Government offices from the standpoint that too much letter writing is done, it may not be amiss to point out that our large volume of correspondence deals entirely with practical matters connected with Departmental administration, and every effort has been made to prevent anything like duplication of work or unnecessary letter writing, and to conduct our correspondence on prompt and business lines. I may also add that a large measure of the success which has so far attended Departmental administration, and the absence of marked friction regarding the introduction of many new Ordinances which have been delegated to the Department for administration during the past two years is, in my opinion, entirely due to promptness in dealing with correspondence relating thereto and the enforcement of the rule that every letter received should be fully replied to at the earliest possible date.

The bearing which a proper system of recording and indexing correspondence has upon prompt and efficient administration is thoroughly realised by the larger business corporations of the country, but is often spoken of as "red tape" when referred to in connection with Government Departments. This I think is a great mistake, for it is only reasonable to assume that when a person writes to a Government Department he looks for a prompt and intelligible answer, and that action is not possible unless the record system adopted permits of ready and certain reference to the previous papers bearing on the point under discussion.

Realising this fact we introduced in the Department in the last year the latest system of card index for our files, as a substitute for the old and cumbersome system of alphabetical register index, and it is thought this change will eventually assist in handling promptly our already large and rapidly growing volume of correspondence.

The volume to which the Departmental correspondence has grown during the past year will be noted from the following statement:

Number of letters received, recorded and attached to proper files.....	16,190
Number of letters sent and copies attached to proper files.....	24,457
Number of circulars of instructions and forms sent....	5,424
Total correspondence dealt with.....	46,071
Average number of communications dealt with daily during the year.....	148

The Departmental work in connection with the administration of The Coal Mines Regulations Ordinance and The Steam Boilers Ordinance is at present carried on through the Correspondence Branch, but it is probable that in the near future the administration of both of these Ordinances will have to be delegated to some one of the subbranches of the Department so as to insure promptness in dealing with the many questions arising from time to time in connection with these important subjects.

The Ordinances mentioned are dealt with in detail under separate headings.

THE COAL MINES REGULATIONS ORDINANCE.

Outside Staff.....1 Inspector

Coal mining is destined within a few years to become a very important industry in the Territories. It already provides occupation for some eight hundred men, and the annual output at nearly all the mines is rapidly increasing. So far the larger portion of the coal mined has been exported or used in connection with the operation of railways in the Territories, but the large influx of immigrants during the past two years, with favourable indications of an increase in numbers during the next year or two, make it certain that the demand for coal for domestic purposes will reach large proportions during the near future.

The wide distribution of coal measures throughout the Territories indicates that when local demands reach a given point fuel for domestic purposes will be available at a low price, and these facts should do much to encourage the early settlement of our vacant lands.

The coal mines operated in the Territories during the past year are set out in the following schedule:

Schedule of Coal Mines in Operation in the Territories during 1900.

NAME OF MINE	LOCATION	OPERATED BY	CHARACTER OF COAL
Anthracite.....	Anthracite, Alta.....	H. W. McNeill Co., Ltd.	Anthracite.
Canmore.....	Canmore, Alta.....	H. W. McNeill Co., Ltd.	Bituminous.
Lethbridge.....	Lethbridge, Alta.....	Alberta Ry. & Coal Co.	do
North Star, No. 1..	Strathcona, Alta.....	E. D. Martin.....	do
North Star, No. 1..	Strathcona, Alta.....	Robert Martin.....	do
Humberstone's.....	Edmonton, Alta.....	Wm. Humberstone.....	do
McAllister.....	Edmonton, Alta.....	James McAllister.....	do
Pearce & Davis.....	Edmonton, Alta.....	Pearce and Davis.....	do
Cunliffe's.....	Ft. Saskatchewan, Alta..	P. B. Cunliffe.....	do
Milner's.....	Edmonton, Alta.....	John Milner.....	do
Clover Bar.....	Edmonton, Alta.....	Gerard & Fortin.....	do
Steeves.....	Strathcona, Alta.....	Burkholder & Fromm...	do

Schedule of Coal Mines in Operation in the Territories during 1900.—Con.

NAME OF MINE	LOCATION	OPERATED BY	CHARACTER OF COAL
Moran's	Edmonton, Alta.....	Samuel Moran.....	Bituminous.
Baldwin	Edmonton, Alta.....	Pratt & Coit.....	do
Sturgeon	Namoo, Alta.....	Frank Smith.....	do
Black Diamond.....	Edmonton, Alta.....	John G. Tipton.....	do
White Star.....	Calgary, Alta.....	Tempest & Co.....	do
Black Diamond.....	Sheep Creek, Alta.....	Cooper & McPherson.....	do
Black.....	St. Albert, Alta.....	Edward Chevigney.....	do
Pearce's.....	Edmonton, Alta.....	Pearce & Co.....	do
Sheep Creek.....	Sheep Creek, Alta.....	J. A. Bangs.....	do
Gillespie.....	Medicine Hat, Assa.....	William Gillespie.....	do
Culley.....	Medicine Hat, Assa.....	George Culley.....	do
Crockford.....	Medicine Hat, Assa.....	Crockford Bros.....	do
Hassard.....	Coalfields, Assa.....	Souris Coal Mining Co.....	do
Roche Percee.....	Coalfields, Assa.....	Roche Percee Colliery Co.....	do
Taylor.....	Roche Percee, Assa.....	Taylor & Sons.....	do
Walsh.....	Coalfields, Assa.....	Evan Jones.....	do
Pure Lignite.....	Coalfields, Assa.....	Knight & Carlson.....	do
Raith.....	Edmonton, Alta.....	William Humberstone.....	do
Baldwin.....	Edmonton, Alta.....	John Baldwin.....	do
Gebo.....	Blairmore, Alta.....	S. W. Gebo & Co.....	do
Anderson.....	Edmonton, Alta.....	— Anderson.....	do
No. 1.....	Red Deer, Alta.....	.....	do
No. 2.....	Red Deer, Alta.....	.....	do
.....	Livingstone, Alta.....	.....	do
.....	Lethbridge, Alta.....	.....	do
.....	Fish Creek, Alta.....	.....	do

The output of the above mentioned mines during 1900 was as follows:

Bituminous coal	303,730 tons.
Anthracite coal.....	17,549 tons.

The foregoing output is computed from returns received from twenty-two mines only, but as the mines from which returns have not been received are small workings, the statement is probably within a thousand tons of the total output

Coal mining, like all undertakings involving danger to human life, should be subjected to rigid Government supervision, and the necessity for that supervision has, I regret to say, been made more than usually apparent by the large number of accidents which occurred in our mines last year. In one or two instances it must be noted that these accidents have not been altogether due to the carelessness of the miners, as mentioned in previous reports, but were caused by failure on the part of coal mining companies to comply strictly with the provisions of The Coal Mines Regulations Ordinance.

The accidents during the past year are scheduled herewith in the usual form:

Schedule of Accidents at Coal Mines during 1900

NAME OF MINE	CHARACTER OF ACCIDENT			TOTAL OF ACCIDENTS
	Resulting in death	Serious injury	Slight injury	
Lethbridge	2	3	1	6
Anthracite	4	1	..	5
Canmore	8	..	..	8
The Territories...	14	4	1	19

The number of deaths as given above shows an increase of ten over the previous year, and gives a per centage of deaths to number of tons of coal mined that is much higher than it should be, when it is remembered that the larger majority of our cold mines are almost entirely free from explosive gas and, therefore, not subject to that element of danger in their operation.

The most serious accident which occurred during the past year took place at the Canmore colliery, causing the death of eight miners. That accident was due to an explosion of gas and coal dust and, it is claimed, was caused by one of the miners opening his safety lamp to give a fellow miner a light. Such action was, of course, contrary to the regulations, but the presence of gas in sufficient quantity to cause such a disastrous explosion indicates clearly that the provisions of the law relating to ventilation were not being observed and that there had been a neglect of duty on the part of the fire boss, who is required to make certain tests from time to time to indicate the presence or absence of gas. The reports of our Inspector regarding his investigations at the Canmore colliery immediately before and after this accident showed that mining operations were not being carried on in accordance with the provisions of the regulations, and these infringements of certain of the provisions of the law necessitated the taking of action against the company, resulting in the imposition of a fine with costs of the suit.

Some trouble was also experienced during the past year with one or two of the owners of smaller mines in the Edmonton district, owing to their neglect to provide the ventilation and the opening to their mines required by the law, but with these exceptions the companies and individuals engaged in coal mining in the Territories have evinced the best spirit in assisting the Inspector in carrying out any instructions sent from the Department.

During the past year large coal deposits have been located in the Crow's Nest Pass, in the Territories, and there is a probability of extensive collieries being developed there in the immediate future. The coal at that point, like that at Fernie, on the British Columbia side of the summit in the Crow's Nest Pass, is claimed to be a good coking coal and the success which has attained the manufacture of coke at Fernie will doubtless encourage the development of the adjacent deposits in the Territories if they are found to be of a suitable nature for coking.

It seems probable that from now on our Inspector will be fully occupied with the inspection of coal mines and examinations under The Coal Mines Ordinance and will be unable to devote much of his time to the inspection of steam boilers which, during the past two years, has formed part of his work,

Examinations under the provisions of the Ordinance for mine managers, pit bosses and fire bosses were held during the past year, and certificates issued to the following gentlemen, who successfully passed these examinations:

Hugh Scott,	Lethbridge,	Pit boss
T. H. Williams,	Canmore,	Pit boss
Wm. Musgrove,	Lethbridge,	Fire boss

Four candidates, who submitted themselves at these examinations for certificates as fire boss, failed to pass.

For reference by mine owners in the Territories a schedule is given of those holding Territorial certificates under The Coal Mines Ordinance.

CERTIFICATES ISSUED FOR MANAGERS, FIRE BOSS AND PIT BOSS UNDER THE
COAL MINES ORDINANCE.

Managers' Certificates.

Dan Evans,	Calgary.
W. D. L. Hardie,	Lethbridge.
James J. Morris,	Canmore.
John Little,	Coalfields.
Wm. Hamilton,	Coalfields.
O. E. S. Whiteside,	Anthracite.

Pit Boss Certificates.

Gus. Ostheidt,	Anthracite.
John Musgrove,	Canmore.
Chas. Emmerson,	Canmore.
Alfred Davis,	Lethbridge.
J. C. Livingstone,	Lethbridge.
Robt. Livingstone,	Lethbridge.
Hugh Scott,	Lethbridge.
T. H. Williams,	Canmore.

Fire Boss Certificates.

W. E. Watkins,	Anthracite.
J. W. Watkins,	Canmore.
John Wilson,	Canmore.
Wm. Cowan,	Canmore.
J. J. McKay,	Lethbridge.
Robert Scott,	Lethbridge.
Robt. Livingstone,	Lethbridge.
Hugh Scott,	Lethbridge.
Wm. Musgrove,	Canmore.

The annual report of Mr. Dan Evans, Inspector of Coal Mines, is appended,

INSPECTOR'S REPORT.

CALGARY, ALTA., *Feby. 1st, 1901.*

THE DEPUTY COMMISSIONER,
Public Works Department,
Regina, Assa.

SIR,—I have the honour to submit my annual report of the inspection of the coal mines in the North-West Territories for the year ending December 31st, 1900.

Number of Coal Mines.

There are now thirty-six coal mines in the North-West Territories.

Location of Coal Mines.

There are eight fairly large mines in the District of Assiniboia, five of them being at Coalfields. These mines are developing rapidly with good prospects of becoming very extensive.

The other three are in the neighbourhood of Medicine Hat and are not so large; they are only operated during the winter months.

The other twenty-eight coal mines are in the District of Alberta: One of the most extensive at Lethbridge, and four small mines south of Lethbridge; one, about twenty miles west of Okotoks, is also a small mine with slight prospects of much increased development; one extensive mine at Canmore; one extensive mine at Anthracite; and there are two in the neighbourhood of Red Deer; seventeen small coal mines in Edmonton and surrounding neighbourhood, and one at Knee Hill, sixty-five miles north-east of Calgary.

Classes of Coal.

The coal mined in the above coal mines is of three classes—anthracite, bituminous and lignite.

The anthracite coal is mined at Anthracite in Alberta; the bituminous coal at Canmore and in the coal mines west of Okotoks, and at Blairmore. All the other coal mined in the North-West Territories is of the lignite class, that mined at Lethbridge being the best quality.

Approximate Thickness of the Veins.

The thickness of the veins of coal mined in the above districts varies very much. At Coalfields the thickness ranges from four to six feet, at Medicine Hat from four to five feet, at Lethbridge from four to six feet of good coal. In the mines south of Lethbridge from three to five feet, the mine west of Okotoks from three to seven feet, at Canmore from four to seven feet, at Anthracite from three to seven feet, at Knee Hill about four feet six inches to five feet.

In the mines at Edmonton and the neighbouring districts the greatest variation occurs, being from about three feet to twelve in thickness of marketable coal.

The Position of the Veins.

All the veins of the lignite class are found lying flat. The bituminous and anthracite lie at different angles, from about forty-five degrees to

the vertical position. These have doubtless been thrown up from great depths and appear to belong to a much earlier formation than the lignite class.

This is not essentially the cause of the difference in the character of the different classes of coal, for the above three classes of coal have been found in what appeared to belong to the same formation and in the same vein. It has not been easy to determine the cause.

Gases and Accidents.

Different gases are more or less met with in all coal mines. The chief gases met with in the coal mines of the North-West Territories are "light carburetted hydrogen," generally termed by miners "firedamp," which is explosive; and carbonic anhydride, called by the miners "blackdamp." This gas is not explosive, but lamps will not burn where there is a small percentage of it in the air, and it cannot be breathed with impunity.

Mines in which firedamp is found are known as "fiery mines." Those not visibly giving off any firedamp are termed "nonfiery mines."

The whole of the foregoing coal mines, except Anthracite and Canmore, are of the nonfiery class, but at the two mines mentioned this explosive gas is given off continuously. Blackdamp is given off in all mines and no mine owner should be allowed to ignore this fact nor to neglect the necessary means for keeping the mine free from this poisonous gas. It is very often given off from the strata, and always from the breathing of the men and animals, and the burning of lamps or candles. Several deaths have occurred in the North-West Territories from this gas while sinking small wells.

It was common during my first inspection to find, in a number of the smaller mines, the miners at work in unventilated places while their candles had to be almost inverted to make them burn, and then only with a feeble light, due to the presence of gas, and I have found it so dense, only a short distance from where the men were working, that a lamp on being immersed in it would be immediately extinguished.

The above was common before the enforcement of section 8 of The Coal Mines Ordinance, when the owners of all the smaller mines ignored the necessity for providing an outlet from their mines independent of the main entrance.

It may be further explained that this gas has not always the same specific gravity and is, therefore, not always found near the floor as would be expected. It is often found containing a varying percentage of nitrogen, although it was formerly regarded as being a constant gas composed only of carbon gas and oxygen, in the proportions of one of carbon to two of oxygen. I have at times found it in holes in the roof of mines, but in whatever form or wherever found it is dangerous to breathe.

An accident occurred during the year at one of the coal mines at Coalfields in connection with explosive gas or firedamp.

The said mine is a level tunnel driven into the side of the hill. At a certain point in the workings it was desired to drill a hole to the surface, a distance of only thirty feet, for the purpose of commanding a shorter distance for pumping out the water found in the mine. In the course of the drilling of this hole a "feeder" or "pocket" of explosive gas was struck. The men were working underneath with naked lights, and a slight explosion took place, the flame being confined to the roof, but through the presence

of mind of the manager, Mr. Hamilton, who instantly dropped to the floor, shouting to the other men present to do the same, no one was hurt.

The slowness of the explosion was due to the fact that the gas ignited before accumulating in a large quantity. It was then allowed to expend itself. This incident proves what has always appeared to me a cause for fear, viz., that no coal mine can be said to be absolutely nonfiery.

This dangerously explosive gas has been often found in more or less large quantities at both Canmore and Anthracite mines during the year.

The fact of these gases being so abundant in these two mines makes it essential that they should be managed with the greatest care. It is also cause for regret that I have to report the disastrous explosion which occurred at the Canmore mines on the 13th of June last resulting in the death of eight of the workmen. The accumulated gas was ignited by one of the victims opening his safety lamp in order to relight another lamp. This was discovered by one of the explorers after the explosion, as the oil vessel of the lamp was found disconnected from the top part of the lamp and separated by several feet.

It has been repeatedly urged that, in order to bring about greater harmony with regard to the carrying out of the provisions of The Coal Mines Ordinance, the Inspector's visits should be more frequent. I have certainly realised the force of this, but, believing the time to be inopportune, have refrained from reporting upon the matter before. I would now urge that, as soon as the Department can arrange this important matter, those coal mines to which section 13 of The Coal Mines Ordinance applies shall be inspected at least once every three months, the smaller mines to be inspected twice during the winter months.

The complete and rapid changes in the internal workings of a coal mine require that they should be vigorously looked after, and when any great length of time intervenes between the Inspector's visits carelessness in attending to the matter of carrying out the provisions of the Ordinance results.

The experience of the past year has shown this in the sad disaster at the Canmore mine. Several other instances have presented themselves, but the one mentioned has been the most important and conspicuous.

I believe that more frequent visits by the Inspector will tend to establish greater harmony and co-operation between the coal mining companies and the Department as to what is required of them, and the number of accidents will then be reduced to a minimum.

In the absence of the necessary data with regard to the accidents that have happened to the workmen in all the mines, I am unable to report upon them. It would be very interesting to ascertain the ratio of accidents, fatal and nonfatal, to the number of tons of coal mined, together with a statement of the causes of said accidents.

Ventilation.

The matter of looking after the ventilation of the coal mines has been of primary importance in the inspections made during the year, and it has been pursued as vigorously as the circumstances allowed. On the whole there has been a decided improvement, but room for greater improvement exists.

There was not, previous to inspection, one mine having an independent outlet. Now the mine owners know that this has to be provided and the additional outlet, of course, helps very much the natural ventilation upon which most of these mines depend. As the larger number of them only operate

during the winter months, it is generally found that the difference of temperature between the outside atmosphere and that of the mine, with the second outlet provided, gives rise to sufficient ventilation for their purpose.

There are in connection with the coal mines of the Territories, besides the natural ventilation mentioned, both furnace and mechanical ventilation.

The furnace ventilation system is confined to the coal mines at coal fields in the District of Assiniboia. These furnaces are arranged at the bottom of the upcast shaft, or at some point along the return air way with a passage around it, so arranged that it can be opened up in a short time for the purpose of passing to and up the upcast shaft if any accident should happen to the main entrance or travelling way.

This system has many disadvantages, one especially arising out of the low degree of frost in the winter. The frozen air passes in and along the main travelling way and as water is more or less found in coal mines and is, as a rule, discharged from the mine along the main travelling way, this freezes causing much trouble.

Mechanical ventilators are in operation at Lethbridge, Canmore and Anthracite. During the year the A. R. & Coal Co. at Lethbridge have installed a new Capell fan, in addition to their former mechanical ventilating plant, and have now at their command three times their former volume of air.

It was my privilege last summer to assist in putting this new plant through a series of tests, and it was found to give the fullest satisfaction. The fans at Canmore and Anthracite are hardly equal to the requirements of the serious condition of these mines and will, no doubt, in the near future be replaced by larger ones. The foregoing fans are what are known as force fans, forcing the air into the mines. This is a decided advantage in winter as the frost is taken out of the cold air before it passes into the mine roadways, preventing any trouble from that source.

The new fan at Lethbridge mine has the advantage that it can in a short time be changed into an exhaust fan, which is no doubt a great advantage in the summer months.

Number of Inspections.

I have visited twenty-four out of the thirty-six coal mines in the Territories each once during the year. Eight of them twice and one of them about five times.

Serious complaints have been made against one of the leading mines necessitating the above number of visits in order to see that certain instructions issued by the Department in accordance with the mine law were carried out. Complaints along the line of safety and ventilation had to be made against two mines in the Edmonton district, and instructions issued to the owners by the Department to attend to the matters complained of, called for special visits to be made to the said mines to see that those instructions were being attended to. I was able to report favourably in one case and recommended a further extension of time in the other, and the Department, desiring to be as lenient as the circumstances warranted, allowed the extension. I have not had the privilege of visiting the said mine since, but hope that the firmness of the Department will have the desired effect.

The ventilation and general safety of all the mines, excepting the two leading mines already referred to, are much improved.

Examinations.

Examinations for pit boss and fire boss certificates were held at Anthracite, Canmore, Lethbridge and Coalfields with the following results :

At Anthracite, for fire boss, the candidate failed. There were three examinations for fire boss certificates at Canmore. One candidate passed successfully, the other two failed. One of the two who failed discontinued to write after making attempt upon the first page.

One examination was held at Lethbridge for pit boss certificate. The candidate was successful and obtained his certificate. There was an examination held at Coalfields for fire boss certificate, but the candidate failed to pass. This made a total of six examinations for the year.

The examination questions for both fire boss and pit boss certificates have been admitted by the Examining Board, and the candidates themselves, to be very appropriate, being for the most part practical and such that the candidates should be well acquainted with.

A pit boss certificate was issued in favour of Mr. T. H. Williams, of Canmore, he having given proof that he had passed a successful examination for an underground manager's certificate before a duly authorised board of examiners in England.

There have been issued under The Coal Mines Ordinance of the North-West Territories, to the end of the year 1900, the following certificates:

Mine managers' certificates	6
Pit boss "	8
Fire boss "	9

Immediately after the passage of The Coal Mines Ordinance steps were taken by the mine manager at Lethbridge to prepare a number of promising persons amongst his employees for the examinations, consequently there have been no lack of qualified men to take charge of the responsible positions at the Lethbridge mine.

I sought to awaken the same interest at Anthracite and Canmore but only succeeded last summer, when a class was commenced by the school master, having in view the preparation of the pupils for the different examinations both under The Coal Mines Ordinances and The Steam Boilers Ordinance. Therefore it may be hoped that soon very promising candidates will present themselves for examination at that point.

Coal Mining Prospects.

From reliable reports coal mining all over the North-West Territories bids fair to become one of its most important industries.

One coal mine is said to be developing extensively at Livingston on the Crow's Nest Railway, thirty miles west of Macleod. Another mine is already shipping a bituminous coal from Blairmore to points along the Crow's Nest Line and up to Calgary.

A charter has already been applied for to build a spur line to the coal mines some distance out of Red Deer.

A spur was built during the year to what is known as the Taylor Mine at Coalfields. This mine promises to become an important one. With the vast amount of immigration into the Territories, and the towns

The matter of the collection of taxes in the large and small Local Improvement Districts is more fully dealt with under separate headings in this report, but it may be well to point out here that this Branch of

book keeping in the Accountant's Office is rapidly growing and will require the almost constant services of one man in the near future.

One of the most common complaints made by those working for Government Departments is caused by delay in payment of accounts, and this complaint probably applies more directly to those Departments charged with the construction of public works. It is sometimes hard to make people understand the necessity for providing duplicate copies of accounts, or many of the other requirements of the Treasury Department regulations, and they characterise as "red tape" any departure from the system followed by ordinary business corporations. We have, however, endeavoured to meet the difficulty by the issue of most precise instructions regarding the method of preparing accounts, and by promptness in examining and passing them for payment as soon as received, and during the past year there has been very little complaint regarding delay in the payment of accounts due.

In speaking generally of the work in the Accountant's Branch during the past year, I desire particularly to draw your attention to the very satisfactory manner in which the work has been performed, and in this connection to point out that the amount of \$37,069.00, collected by the Department as above mentioned, exceeds the total amount which a very few years ago was collected from all sources as Territorial revenue.

In connection with the foregoing report of the work of the Accountant's Branch during the past season, a statement is appended for the purpose of showing the percentage of cost of administration and supervision of public works, this statement being given in view of the criticism to which the Department has been subjected from the standpoint of our expenditure for that service.

Total amount dealt with by the Department during	
year as shown by foregoing statement	\$213,029 74
Total expenditure for Departmental staff	13,050 21
Percentage of expenditure for administration and	
supervision	6 $\frac{1}{8}$

In arriving at the percentage of cost of administration and supervision we have charged the total amount of Departmental salaries, but it must be noted that a large portion of the Departmental work comprises subjects in no way connected with the actual expenditure in public works, such as the Local Improvement and Village Ordinances, the supervision of surveys and acquirements of right of way for roads, and many other matters that are purely administrative. Even on that basis the percentage of cost of the Departmental "machine" will be noted as being less than one-third of the average cost throughout Canada for administration under municipal organisation, and also makes a very good showing when compared with like charges of Government Departments in other portions of Canada.

The question of the percentage of cost for inspection and superintendence of public works is one which has already given rise to some discussion, and the figures relating thereto during the past year are therefore given here to illustrate the low rate at which our present organisation permits of that work being done.

Amounts expended during 1900, for construction of bridges, roads, dams, ferries and other public works requiring superintendence and inspection.....	\$125,184.34
Amounts expended for superintendence and inspection of public works.....	\$ 2,289.63
Percentage of expenditure for superintendence and inspection	14 $\frac{1}{5}$

The foregoing statement may fairly be claimed to make a very good showing for the Department, and in connection therewith I may point out that the best authorities on work involving engineering and other technical supervision and inspection, whether done as private or Government work, claim that five per cent. of the cost is a fair sum to set aside for designing, superintending and inspecting such work.

THE STEAM BOILERS ORDINANCE.

When the staff of the Accountant's Branch was increased during the year the Departmental administration of The Steam Boilers Ordinance, which is a revenue producing Ordinance, was transferred to that Branch from the Correspondence Branch, and the details of the administration are given below.

In the early part of the year the vacancy caused by the resignation of Mr. W. C. Wilcox, one of the two Inspectors appointed during the previous year, was filled by the appointment of Mr. W. M. Carment, of Kam-sack, and in August the number of Inspectors was increased to three by the appointment of Mr. William Waller, of Whitewood, this increase being necessitated by the fact that it was found impossible with two Inspectors to reach all the boilers requiring inspection.

The work completed by the outside staff of Inspectors, and in connection with the Departmental administration of this Ordinance, during the past year is summarised as follows:

Number of steam boilers inspected.....	509
Number of examinations of engineers held.....	141
Number of first class engineer's certificates issued.....	7
Number of second class engineer's certificates issued.....	78
Number of third class engineer's certificates issued.....	74
Number of provisional engineer's certificates issued.....	178
Number of permits for operation of boilers issued.....	42
Fees collected :	
For inspection of boilers.....	\$2,430.00
“ Examination of engineers.....	480.00
“ Provisional certificates.....	534.00
“ Permits for operation of boilers.....	126.00
	\$3,570.00

The number of boilers inspected during 1900 shows an increase of 129 over the number inspected in the preceding year, and the number of final, first, second and third class certificates to engineers also shows a marked increase. The number of provisional certificates, as was to be expected, decreased from 304 to 178, indicating that those who had been

operating engines without special qualifications are rapidly dropping out, or by passing the necessary examination are becoming the holders of a final certificate in one of the grades mentioned.

The reports of the Inspectors of steam boilers appended hereto indicate that the large majority of the boilers in use in the Territories are in good condition, but it will be noted that they found several boilers being operated which inspection proved unfit for use, and there is no doubt that the issue of certificates condemning these boilers has averted accidents. The reports also indicate that a large number of the boilers in use require repairs, and one of the direct benefits to a boiler owner from inspection is that he receives a written statement from an expert as to what repairs his boiler requires to put it in safe working condition.

That it is desirable to have steam boilers inspected, and properly qualified men to operate them provided, is now, I think, admitted by the large majority of boiler owners, but the disinclination to pay the fee for the inspection, particularly referred to by Mr. Carment in his report, is evident from many letters received during the year.

This is, however, only one of the many cases in which the common idea seems to be that if the Legislative Assembly decide that it is necessary to do anything they should also pay for the "doing." However, I am satisfied that ere long the persons most interested will realise that the small fee collected is only a fair charge for the return they get in having their boilers inspected and provision made for their operation at a safe working pressure.

The regulations adopted in 1899 regarding the lock pop safety valves on all boilers has provided the necessary check on the pressure used, but some difficulty has been experienced in getting all boiler owners to provide these valves, and when valves have been provided and properly set and locked some complaints have subsequently been filed regarding the pressure attained, clearly indicating what was previously suspected, that unless restrained by a locked valve from using a greater pressure than their certificate allowed, some owners had been in the habit of setting the old style valves to carry such pressure as they liked.

Four prosecutions for infringement of The Steam Boilers Ordinance were enforced during the year, resulting in each case in the imposition of the penalties imposed by the Ordinance. It may, however, be stated that the large number of boiler owners have shown every disposition to comply with the provisions of the law, and it is, I think, generally recognised that the inspection of steam boilers is a necessary and desirable work, considering the danger to life involved in their operation. I may, however, again direct attention to the fact that the lead of the Territories in this important matter is being followed in several of the older Provinces, and that in Ontario this action is being taken upon the urgent solicitation of the engineers engaged in operating stationary engines and boilers. The experience gained in administering our Ordinance during the past year indicates that some minor amendments are needed to make it work more smoothly, but with these amendments the present law certainly seems to provide for this important matter on a satisfactory basis.

For general reference the usual schedule of holders of engineer's certificates is appended.

Schedule of Holders of Certificates of Qualification under The Steam Boilers Ordinance.

NAME	ADDRESS	DATE OF ISSUE
<i>First Class</i>		
McNabb, Franklin	Fort Qu'Appelle	28 March, 1899
Cross, William	Calgary	do
Liston, Robert F.	Battleford	29 March, 1899
Holden, William John	Indian Head	28 March, 1899
Turgeon, Cleophas	Edmonton	do
Mayhew, William	Broadview	do
Cook, George	Regina	do
Kirkland, Thomas	Yorkton	do
Carment, Wm. Maxwell	Kamsack	do
Taylor, George R.	Strathcona	do
Evans, Dan	Calgary	do
Collison, George	Coalfields	do
Scott, John	Lethbridge	do
Brissette, Narcisse	Morinville	do
Bell, John	Prince Albert	do
Smith, Percy Lewis	Prince Albert	4 April, 1899
Smith, John McKenzie	Prince Albert	do
Sutherland, James A.	Broadview	29 September, 1899
Fraser, David	Strathcona	9 October, 1899
McNaughton, Peter	Edmonton	do
Codd, Edward F.	Calgary	5 June, 1900
Niven, Robert	Lethbridge	28 July, 1900
Archibald, Harry P.	Lethbridge	15 August, 1900
Jackson, John A.	Strathcona	23 October, 1900
Waller, William	Whitewood	6 November, 1900
Roop, Warren E.	Moose Jaw	15 November, 1900
Hicks, Robert	Rossetti	24 December, 1900
<i>Second Class</i>		
Cape, Edmond G. M.	Lethbridge	30 June, 1899
Walker, J. B.	Lethbridge	do
McKay, Daniel	Lethbridge	do
Reed, R. W.	Lethbridge	do
Parcels, Timothy P.	Red Deer	4 September, 1899
Bawtinheimer, George H.	Red Deer	do
Stapley, Tobias B.	Edmonton	do
Ffolliott, L. H.	Grenfell	29 September, 1899
Amas, Frank	Qu'Appelle Station	do
Green, George	Moose Jaw	do
Payzant, Ernest M.	Edmonton	9 October, 1899
Hubbard, Sydney T.	Edmonton	do
Jones, Frederick W.	Strathcona	do
Clark, W. Harold	Edmonton	do
Pratt, George	Edmonton	do
Schatz, Wm. H.	Strathcona	do
Watson, Ernest P.	Strathcona	do
Hennigar, Edward J.	Edmonton	do
Thompson, R. D.	Wolsley	13 November 1899
Macey, Charles R.	Oxbow	15 November 1899
Cumming, Thos. C.	Whitewood	do
Hamill, Thomas T.	Whitewood	do
Collopy, Alexander	Alameda	do
More, Robert	Brendburg	do
Brayne, Joseph	Calgary	1 December 1899
Shaw, Maltman, W. S.	Midnapore	do
Evans, Harry W.	Anthracite	13 February 1900
Turner, Ornelo H.	Calgary	do
Richards, Henry John	Cannore	do
Toreson, Thomas	Wetaskiwin	7 March 1900
Biery, Charles	Strathcona	do
Haines, Alfred H.	Edmonton	do
Keenan, James S.	Moosomin	21 March 1900

Schedule of Holders of Certificates of Qualification under The Steam Boilers Ordinance.—Continued.

NAME	ADDRESS	DATE OF ISSUE
<i>Second Class.—Continued</i>		
Kerr, William.....	Lethbridge.....	23 March 1900
Moran, Austin.....	Lethbridge.....	do
Conn, David.....	Lethbridge.....	do
Nimmons, Robert.....	Lethbridge.....	do
Stafford, George.....	Lethbridge.....	do
Donaldson, Maxwell.....	Lethbridge.....	do
Hillis, Henry.....	Medicine Hat.....	do
Steven, James H.....	Calgary.....	17 April 1900
Osment, Walter J.....	Indian Head.....	25 April 1900
Grant, Geo.....	Wolseley.....	do
Walters, Bertrand.....	Grenfell.....	do
Clow, Charles.....	Ellisboro.....	do
Shingler, Charles.....	Grenfell.....	do
Fitzgerald, Walter G.....	Belle Prairie.....	do
Winter, Robert S.....	Wapella.....	do
Chalmers, Walter N.....	Edmonton.....	28 May 1900
Pearce, Abram.....	Edmonton.....	do
Verey, George W.....	Prince Albert.....	do
Shannon, John W.....	Prince Albert.....	do
Barley, George T.....	Prince Albert.....	do
McBeth, William M.....	Prince Albert.....	do
Goodfellow, Willard R.....	Prince Albert.....	do
Brydges, Alonzo H.....	Moosomin.....	30 May 1900
Ritchie, William J.....	Canmore.....	5 June 1900
McGee, Thomas.....	Whitefish Lake.....	14 June 1900
Kidd, Frederick.....	Calgary.....	do
Workman, Walter R.....	Oxbow.....	19 July 1900
Bierwirth, Ernest.....	Carnduff.....	do
Dickson, William.....	Oxbow.....	do
Collopy, Thomas.....	Alameda.....	do
Humphrys, William.....	Cannington Manor.....	do
McGuirl, John.....	Moosomin.....	do
Wood, Charles E. D.....	Macleod.....	28 July 1900
McDougall, John.....	Regina.....	do
Burke, Fred.....	Gainsborough.....	7 August 1900
Keith, John.....	Fitzmaurice.....	24 August 1900
White, James.....	Canmore.....	5 September 1900
Lyon, William.....	Moffatt.....	do
Holden, Albert.....	Indian Head.....	do
Pajot, Jacques.....	Duck Lake.....	29 September 1900
Rankin, Thomas H.....	Banff.....	do
Rigby, William.....	Tregarva.....	do
Hicklin, John W.....	Calgary.....	do
McEwen, Duncan.....	Regina.....	do
Donald, J.....	Moosomin.....	do
Goodman, J.....	Moosomin.....	do
Gibson, Fred. A.....	Moosomin.....	do
Hoyer, Richard.....	Hednesford.....	do
Hiscox, Thomas S.....	Regina.....	do
Abbey, Oliver A.....	Moose Jaw.....	do
Nesbitt, John.....	Moose Jaw.....	do
Blatchford, K. A.....	Edmonton.....	23 October 1900
Boyes, Henry.....	Indian Head.....	30 October 1900
Eddy, Alexander.....	Medicine Hat.....	5 November 1900
Gamble, Alva H.....	Moose Jaw.....	15 November 1900
Abbott, James L.....	Moosomin.....	do
Neufeldt, Peter P.....	Rosthern.....	20 November 1900
Dyke, Abraham.....	Waldheim.....	do
Wiebe, William R.....	Rosthern.....	do
Blair, Andrew.....	Lumsden.....	23 November 1900
Tomkins, Peter.....	Whitefish Lake.....	27 November 1900
Green, Frederick W.....	Moose Jaw.....	13 December 1900
Stephenson, J. W.....	Moose Jaw.....	do

Schedule of Holders of Certificates of Qualification under The Steam Boilers Ordinance.—Continued.

NAME	ADDRESS	DATE OF ISSUE
<i>Second Class.—Continued</i>		
White, William J.	Moose Jaw	13 December 1900
Laidlaw, Robert	Grenfell	24 December 1900
Shirkie, Andrew S.	Grenfell	do
Brown, John E.	Spy Hill	do
Dimmick, W. J.	Fleming	do
Blain, J. W.	Strathcona	31 December 1900
<i>Third Class.</i>		
Prince, Joseph A.	Battleford	11 July 1899
Smith, Gavin G.	Battleford	do
Ramsey, David	Winnipeg	1 August 1899
Stadelbauer, Simon	Spruce Grove	18 September 1899
Russell, Alex. B.	Regina	29 September 1899
Black, Walter M.	Wolseley	do
Krienke, C. F.	Wolseley	do
Aldous, Robert B.	Lorlie	do
Hailey, William	Wolseley	do
Fotheringham, James	Grenfell	do
Dash, Albert	Grenfell	do
Thompson, Charles K.	Wolseley	do
Dixon, William	Sintaluta	do
Getty, Samuel	Moose Jaw	do
Brown, Frank	Indian Head	do
Johnstone, Thomas	Qu'Appelle Station	do
Fletcher, Alex.	Moose Jaw	do
Thompson, Hugh	Moose Jaw	do
Smith, N. T.	Moose Jaw	do
Smith, James W.	Moose Jaw	do
Ingram, Isaac	Strathcona	9 October 1899
Vogel, William	Strathcona	do
Currie, Laughlin	Strathcona	do
Hewer, Jessey James	Strathcona	do
Cameron, John	Edmonton	do
Robinson, John	Edmonton	do
Ottewell, Richard P.	Edmonton	do
McKernan, James	Edmonton	do
Witmer, Abraham M.	Strathcona	do
Stewart, Thos. H.	Strathcona	do
King, John	Regina	13 October 1899
Sanders, S. B.	Grenfell	15 November 1899
Clement, Lewis J.	Carnduff	17 November 1899
James, William H.	Whitewood	do
Cross, William	Crescent Lake	do
Ritchie, Charles	Cut Arm	do
Blatchford, Peter	Edmonton	28 November 1899
Smith, William F.	Athabasca Landing	do
Morkin, John	Dunbow	1 December 1899
Shaw, John York	Midnapore	do
Stine, Frank	Hyde	13 February 1900
Stein, Andrew	Tiree	do
Ellerman, Emil	Hyde	do
Cooper, Watt	Canmore	do
Carscadden, F. W.	Strathcona	7 March 1900
Peirce, George J.	Red Deer	8 March 1900
Saunders, Elias T.	Lethbridge	23 March 1900
Clements, Charles H.	Fairmede	25 April 1900
Krienke, Albert	Ellisboro	do
Faulkner, Gilbert W.	Grenfell	do
Fitzgerald, Gerald D.	Belle Prairie	do
Halfin, Mark	Wolseley	do
Hunt, Arthur	Wapella	do

Schedule of Holders of Certificates of Qualification under The Steam Boilers Ordinance.—Continued.

NAME	ADDRESS	DATE OF ISSUE
<i>Third Class.—Continued</i>		
Harrold, Donald.....	Edmonton.....	28 May 1900
Gagnon, Alfred.....	St. Albert.....	do
Martin, Magloire Z.....	Morinville.....	do
Bergeron, Joseph.....	Fort Saskatchewan.....	do
Forsyth, George.....	Prince Albert.....	do
Ballantyne, Archibald.....	Prince Albert.....	do
Nelson, Frank.....	Wetaskiwin.....	30 May 1900
Pateman, George.....	Welwyn.....	do
Merrill, Henry R.....	Carnduff.....	19 July 1900
Steele, William L.....	Oxbow.....	do
Wilson, J. B.....	Carnduff.....	do
Wilson, James E.....	Calgary.....	do
Jackson, Charles.....	Calgary.....	do
Lang, James.....	Okotoks.....	do
Snider, John B.....	Okotoks.....	do
Gray, William.....	Clumber.....	24 August 1900
Ritchie, James.....	Saltcoats.....	do
Brears, Edward.....	Clumber.....	do
Hawkes, A. G.....	Broadview.....	5 September 1900
Ferguson, William.....	Moffatt.....	do
Doan, John.....	Regina.....	do
Burkman, John A.....	New Finland.....	do
Murray, James A.....	Moosomin.....	29 September 1900
Embury, J. R.....	Wapella.....	do
Nixon, T. H.....	Wapella.....	do
Kerr, William G.....	Moosomin.....	do
Godson, Charles.....	Fairville.....	do
Park, Richard R.....	Maple Creek.....	do
Rutherford, John.....	Medicine Hat.....	do
McKen, James.....	Yorkton.....	15 October 1900
Chute, Clarence.....	Pasqua.....	do
Erickson, John.....	Wetaskiwin.....	23 October 1900
McDonell, Finlay.....	The Sturgeon.....	do
Pearce, James.....	Edmonton.....	do
McConnell, William J.....	Lethbridge.....	25 October 1900
Campbell, Thomas.....	Prince Albert.....	10 November 1900
Steffes, Ferdinand.....	Morinville.....	15 November 1900
Steffes, Joseph.....	Morinville.....	do
Heffner, Frank.....	Bruederheim.....	do
McLellan, John.....	Fort Saskatchewan.....	do
McLeod, Millage J.....	Fort Saskatchewan.....	do
McKellar, John.....	Fort Saskatchewan.....	do
Lamoureux, Alcibiade.....	Fort Saskatchewan.....	do
Ross, Thomas G.....	Poplar Lake.....	do
Harms, Peter W.....	Rosthern.....	20 November 1900
Neufeldt, D. D.....	Waldheim.....	do
Welk, D. A.....	Rosthern.....	do
Peters, Jacob.....	Osler.....	do
Finn, James E.....	Fort Qu'Appelle.....	23 November 1900
Merchants, John.....	Lumsden.....	30 November 1900
Grue, Thore S.....	Bittern Lake.....	7 December 1900
Stine, Fred.....	Tiree.....	12 December 1900
Beesley, John W.....	Marlborough.....	13 December 1900
Fowler, James P.....	Moose Jaw.....	do
Ratray, Archie B.....	Edmonton.....	15 December 1900
Bonnycastle, Thomas.....	Katepwe.....	24 December 1900
Perkins, William.....	Kenlis.....	do
Stephens, Charles.....	Saltoun.....	do
Minty, Charles J.....	Ferndale.....	do
Nixon, Kendal.....	Wapella.....	do
Holden, J. A.....	Strathcona.....	31 December 1900
Clink, Geo I.....	Lacombe.....	do

CALGARY, *January 28th, 1901.*

THE COMMISSIONER OF PUBLIC WORKS,
Regina.

SIR,—I have the honour to submit my annual report as Inspector of Steam Boilers, as provided by Section 19 of The Steam Boilers Ordinance of the North-West Territories, for the year ending 1900.

My work as Inspector of Steam Boilers has been chiefly confined to the District of Alberta, excepting the inspection of three boilers in the western part of the District of Assiniboia, of which two were in Medicine Hat and one in Maple Creek.

During the year I have inspected one hundred and eighty-six steam boilers and, for reasons approved by the Department, the inspection of twenty-six boilers has been postponed, as against one hundred and seventy-nine in the preceding year, showing an increase of seven boilers inspected during the year 1900.

I have learned from the different manufacturing firms that a number of orders for new steam threshing outfits have already been placed with them to be supplied in the coming spring.

The capacities of the above steam boilers range from six horse power to one hundred and twenty-five horse power. The latter are those recently installed by the Alberta Railway and Coal Company at the Lethbridge mines to operate their extensive machinery plant haulage coal mining machines and ventilation.

Out of the above total ninety-eight are stationary, or used as stationary, high pressure steam boilers, and one hundred and fifteen are portable high pressure steam boilers.

These one hundred and fifteen portable boilers range in capacities from fourteen horse power to twenty-five horse power. They vary very much in type, but may be classed chiefly as return tubular, firebox tubular and firebox return tubular boilers. There are a few upright cross tubular sectional boilers.

The recently imported boilers have been principally of the firebox tubular and firebox return tubular type, and for many reasons are an improvement on the old type of boilers. They are also of the type known as "open bottoms" instead of the old "water bottoms" in which, because of the neglect and often ignorance of the person in charge, mud would invariably collect at the bottom, destroying the purpose for which the water bottoms were intended; and also, owing to so much frost in winter, the mud becomes a source of trouble by forcing in the inside shell at the bottom of the firebox.

These firebox tubular boilers and firebox return tubular boilers are now made smaller in diameter, allowing for a higher working steam pressure with the same thickness of plate, thereby enabling them to be supplied with compound cylinders so as to obtain the greatest efficiency.

Of the ninety-eight stationary boilers twenty-nine are used in operating twenty-two saw mills and planing mills. Besides these, a number of steam threshing boilers are used to operate saw mills during some part of the year. These twenty-nine stationary boilers range in capacity from twenty horse power to ninety horse power.

Thirteen stationary boilers are used to operate ten flour mills, one oatmeal mill and two elevators, ranging in capacity from twenty horse power to one hundred horse power.

There are three machine shops operated by three boilers.

The coal mines of Alberta utilise twenty-three steam boilers to operate their machinery, ranging in capacity from fifty horse power to one hundred and twenty-five horse power.

The remaining thirty boilers are used in connection with the creameries, water works, electric light plants, and steam laundries.

The following code, "very good," "good," "very fair," "fair," and "bad" has been used to describe the condition of the different boilers.

Boilers described as bad would be condemned, at least *pro tem*, if not permanently, and under any circumstances until satisfactorily repaired.

Very few have obtained very good, because of the form of construction, for, while the material and workmanship have been "very good" the form of construction has commanded only "good;" *e. g.*, a boiler with a large internal circular flue, especially one with a riveted seam along its length, detracts from what might otherwise have commanded "very good." Further, a tube will not stand, all other things being equal, a collapsing strain as high as the bursting strain. This has been demonstrated in three instances in my experience while acting as Inspector of Steam Boilers for the North-West Territories. In one instance the inside shell around the firebox (notwithstanding its being circular in form, of same thickness and with a much less diameter than the outer shell) collapsed while under only ninety pounds pressure, whereas the outer shell was calculated to withstand a bursting strain of nearly five hundred pounds. In the second instance the internal shell of a water bottom firebox boiler collapsed when under eighty pounds pressure. In the third instance the centre flue of a return tubular boiler collapsed when under one hundred and twenty pounds hydrostatic pressure, although the flue was only about eighteen inches in diameter. The foregoing proves that it is difficult to determine the collapsing strain of any internally fired return tubular boiler. The impossibility of constructing a perfectly circular tube is well known, especially when the same is joined by a riveted seam.

The character of a large majority of boilers inspected during the year has been classed as good, only a few very good, quite a few very fair, a few fair, and two bad. Those characterised as very fair and fair have been chiefly old second hand boilers imported from the United States and a few from the eastern part of Canada, with the result that the working pressures have been reduced, to the loss, it is to be regretted, of the owners who have so foolishly shipped them, in many instances they being ignorant of a Steam Boilers Ordinance being in force in the North-West Territories.

It can be safely claimed that a few disasters by explosion have already been prevented. One large boiler last year was working at ninety pounds steam pressure and burst when under one hundred pounds hydrostatic pressure, making two rents across the top of the barrel part of the boiler in the shell. Said boiler was a forty horse power firebox tubular boiler operating a saw mill where a number of men were being employed. The second was a small firebox tubular boiler water bottom. The inside shell at the bottom of the firebox collapsed when under eighty pounds hydrostatic pressure. This boiler was working at sixty pounds steam pressure, but with an unreliable safety valve. The third was a return tubular boiler, in which the centre flue, about eighteen inches diameter, collapsed when under one hundred and twenty pounds hydrostatic pressure. This was being worked at one hundred and five pounds steam pressure. There were

twenty-two men employed around this boiler. The fourth was a large old boiler so corroded that very important internal parts fell to pieces under a few blows of a small testing hammer, and notwithstanding it being in such a bad state the safety valve was weighted down with a large weight in addition to the original weight supplied by the manufacturers. A fifth was a very old boiler badly burnt and abused, working at one hundred and twenty pounds steam pressure, whereas the same could only be allowed to carry a working pressure of sixty-five pounds. And the sixth instance was a very old boiler like the last, working at one hundred pounds steam pressure with an unreliable safety valve. This boiler had also to be reduced to a working pressure of sixty-five pounds.

It can be safely claimed that each of the foregoing boilers would very soon have exploded with possible disastrous results.

There have been a few other boilers which have had the working pressures considerably lowered.

It may be remarked that the introduction and enforcement of The Steam Boilers Ordinance in the North-West Territories have been highly appreciated by the mass of the people. There have been a few owners who, because of having to suffer a temporary loss, have complained against the application of the provisions of the Ordinance.

The discontinuance of the old lever and weight safety valve and the enforcement of the sealed lock pop safety valve has also been much appreciated, as it gives the assurance that the safety valve cannot be tampered with.

On the whole there is a growing satisfaction with regard to the working of The Steam Boilers Ordinance through the District of Alberta.

The issuing of certificates to qualified engineers is also highly esteemed. The owners, and all the workmen around boilers, realise a sense of security when they know that there is a qualified engineer in charge.

Owing to the large and continually increasing number of steam boilers coming into the Territories, being in excess of the number of qualified engineers, great leniency has had to be extended to men who claimed to be, and were ambitious to become, engineers, but who could not under other and more favourable circumstances have succeeded in obtaining the necessary engineer's certificate. Some owners, not realising the necessity for this leniency, have misunderstood why certain engineers have been given certificates.

The whole system, including the examinations, is proving to be educative and helpful. Men who thought they knew something about the operation of a steam boiler, having been in charge of steam boilers for several years, through having to study the theory of steam engineering in order to pass a good examination, have confessed that they were only now learning enough to be afraid.

The number of final certificates issued to engineers by examination in the District of Alberta up to the end of 1900 is ninety-one. They are arranged under three classes, as follows:

First class, 6. Second class, 41. Third class, 44.

There are six other engineers to whom first class certificates have been issued in exchange for certificates issued in their favour elsewhere, making a total of ninety-seven engineers holding final certificates in Alberta.

Fifty-eight examinations of the holders of provisional certificates have been held during the year 1900. Fifty-seven passed their examination successfully and one failed.

The following certificates have been issued in favour of the successful candidates: First class, 3; second class, 25; third class, 29; failure, 1; making a total increase of qualified engineers in the District of Alberta, for the year 1900, of 57.

A very large number of the present holders of provisional certificates have procured engineering books, and are studying them with a view to qualifying themselves to pass a successful examination during the coming year of 1901.

It is thought that by rearranging and gradually raising the standard of questions at the examinations, a superior class of engineers can be secured, because a closer application in the study of the principles of steam engineering will be required, and any annoyances arising now from the ignorance of engineers and owners will be minimised. I have found that those who professed to know the most, but proved to know the least, have given the most trouble.

The attached table shows clearly the results of engineers' examinations and the type and character of the steam boilers inspected during the year.

It has been discovered that some amendments are advisable to The Steam Boilers Ordinance in order to facilitate the work, and it is also suggested to change the questions for engineers' examinations and rearrange them in classes so that each candidate can be examined for the class of certificate desired.

I have, etc.,

D. EVANS,

Inspector Steam Boilers.

Table Showing Operation of The Steam Boilers Ordinance in the District of Alberta for the Year ending January 31st, 1900.

Condition of boilers inspected:		
Very good.....	6	
Good	134	
Very fair.....	23	
Fair	20	
Bad	3	
	—	186
Kind of boilers inspected:		
Return tubular	92	
Firebox tubular.....	56	
Firebox return	10	
Upright	23	
Upright sectional	5	
	—	186
Number of boilers inspected during the year.....	186	
Number of boiler inspections postponed.....	26	
Number of boilers inspected since end of year....	7	
Number of boilers in Alberta at end of year 1900..	—	219

Number of examinations of engineers.....	58
Number and class of final certificates issued:	
First class.....	3
Second class.....	25
Third class.....	29
Failed.....	1
	— 57
Number and class of certificates issued before 1900:	
First class.....	9
Second class.....	16
Third class.....	15
Failed.....	1
	— 40
Total number of final certificates issued to engineers to the end of 1900.....	97

WOLSELEY, *January 1st, 1901.*

JAS. H. ROSS, Esq., M.L.A.,
Commissioner of Public Works.

Regina, Assa.

SIR,—In accordance with the requirements of The Steam Boilers Ordinance I have the honour to submit my annual report for the year 1900.

Upon my appointment towards the end of March last, as Steam Boiler Inspector, I at once proceeded with the work of inspection, and have since that date inspected two hundred and seventeen boilers. These were divided between the following classes, viz:

58 stationary boilers;
118 portable do.;
38 traction do.;
2 steam ploughs;
1 fire engine.

They consisted of the following types, viz.:

119 return tubular boilers;
88 locomotive firebox boilers;
10 upright boilers.

Of this number one hundred and sixty were in good condition, and fifty-one in fair condition, which may be taken to mean that they are more or less damaged, either through age, improper management, or other causes. Four were in poor condition, necessitating extensive repairs to render them safe to use, and two were condemned altogether. Of the boilers inspected by me forty-two had never before been inspected by a North-West Government Inspector.

In eighty-seven cases I ordered new lock pop safety valves to be provided, and in sixty-three cases repairs were ordered to be made before the boilers were operated.

Owing to press of work Mr. William Waller, of Whitewood, was appointed to assist me, his duties commencing on the 1st August. Between that date and the end of November one hundred and two boilers were inspected by him, of which number sixty-six had never been previously

inspected. This makes a total of one hundred and eight boilers inspected this season which had never been previously inspected. This number was to some extent offset by the fact that some of the boilers inspected by my predecessor, Mr. Wilcox, had been put permanently out of use and others had been removed out of the Territories. I have also thirty-one boilers on my list which have not been inspected this season, most of these being threshing machine boilers, which were not used on account of the poor crops in most parts of my district during the past season. Most of these boilers were visited by me, however, entailing almost as great an expenditure of time as if they had been inspected.

I have to report wide spread dissatisfaction, not so much directed against the inspection of the boilers as against the fee charged, and in many cases payment is made very unwillingly. In some instances I have had to leave the collection of the fees to the Department. In some cases nonpayment may be due to inability to pay, but in the majority of them it seems to be due to the fact that the boiler owners look upon it as an imposition that ought to be resisted.

One party was prosecuted for refusing to allow his boiler to be inspected, and for operating the same without having a certificate as engineer. A verdict was obtained and a small fine inflicted on both charges. I have held thirteen examinations at various points throughout my district, and examined fifty-two candidates for final engineer's certificates. There have been no casualties reported to me as having occurred in my district.

I have, etc.,

W. M. CARMENT,
Boiler Inspector.

REGINA, ASSA., *January 15th, 1901.*

J. H. ROSS, Esq., M.L.A.,
Commissioner of Public Works,
Regina.

SIR,—I beg to submit herewith a report of the steam boilers inspected by me since August 1st, 1900, at which time I was engaged to assist Mr. W. M. Carment in the eastern division of Assiniboia.

The number of boilers inspected is one hundred and two, which may be classed as follows:

- 31 portable, of the locomotive type;
- 23 traction, of the locomotive type;
- 18 traction, of the return tubular type;
- 16 portable, of the return tubular type;
- 10 stationary, tubular;
- 5 upright boilers.

Thirty of these boilers were in good condition, twenty in fair condition and two were condemned. Fifty-four boilers were ordered to have the lock pop safety valve provided so as to comply with the provisions of the Ordinance.

From these one hundred and two inspections I had very little complaint.

Two complaints were sent to the Department that not enough steam pressure was allowed on the boilers inspected. In one case the party wanted one hundred and fifty pounds steam pressure allowed. I would beg to point out that in the case of threshing engines an excessive pressure should not be allowed on account of the fact that these boilers are made of too light a material to carry such pressure; and furthermore, the engineers who operate threshing engines are not qualified to handle boilers of this nature with such high pressure on the open prairie with safety.

I am pleased to be able to inform you that the majority of the owners of boilers are in favour of having their boilers inspected. I had every kindness shown me whenever I went to inspect a boiler. A few are not in favour of the Ordinance, but I found that a reasonable talk with a little common sense brings them over.

I held two examinations for engineer's final certificates, examining seventeen candidates. Recommendations relative to the Ordinance and examination papers were submitted to the Department in conjunction with Mr. Carment.

I have no casualties to report in connection with the operation of steam boilers in this district.

I have, etc.,

WM. WALLER,

Inspector of Steam Boilers.

SURVEYS BRANCH.

Staff	{	Assistant Chief Surveyor
	{	One clerk
	{	One typewriter and stenographer, temporary.

The work in the Surveys Branch has grown to very large proportions during the past year, and promises to increase rapidly in the near future. The work in that Branch may be said to be the most difficult with which we have to cope, and special legislation dealing with the question of the right of way required for roads, drains, reservoirs or other public works is urgently needed. A statement is appended showing the official work of the office during the past year.

Statement.

Plans received, examined and recorded	147
Books of field notes received, examined and recorded	42
Transfers of right of way prepared and forwarded for signature	211
Certificates of title for right of way obtained	112
Preliminary agreements for right of way prepared and recorded after signature	229

In the beginning of the year Mr. R. S. Laurie, Assistant Chief Surveyor, volunteered for service in South Africa and was appointed to a command in the Strathcona Horse. He was granted six months' leave of

absence and during that time the work in the Surveys Branch fell very much into arrears, as I was unable to keep it up owing to the press of other Departmental work.

In November the vacancy caused by Mr. Laurie's continued service in South Africa was filled by the appointment of Mr. A. E. Farncomb as Assistant Chief Surveyor, and since that date every effort has been made to dispose of the many hundreds of cases of titles awaiting settlement.

Six surveyors were employed during the past year, and in addition certain urgent cases of road locations were dealt with through our Local Inspectors, who made the locations so as to enable work to proceed, the surveys being deferred until later. This large staff, however, did not enable us to overtake all the necessary surveys, and it is quite evident that provision must be made for employing at least as many surveyors during the coming year.

In previous Departmental reports attention was directed to the idea, then prevalent in many quarters, that roads could be opened by the Department without a survey being first made. That erroneous idea has now been largely corrected, but the correction has resulted in a flood of applications for surveys which will certainly keep the Surveys Branch busily employed for some time. The experience gained in dealing with the matter of the survey of roads since the organisation of the Department clearly indicates that the arbitrary road allowance system of the Dominion Lands system of survey is quite unsuited to the existing topographical conditions in the northern and foothill portions of the Territories, and that those districts would have been much better served by deferring the location of the roads until after the subdivision surveys were completed, having, in the subdivision of townships, made provision for the taking of such area as might be needed for highways to be laid out where they were feasible for travel and would best serve the public needs. In many townships in the districts mentioned the greater part, if not all, the road allowances provided under the Dominion Lands system of survey are found to be entirely useless for public use owing to the natural obstructions, and we are not only called upon to provide suitable roads, but have to deal with the question of closing up the useless road allowances.

In opening new roads the question of the title to the right of way therefor across each quarter section intersected has to be dealt with separately. As some of our surveys cross many hundred quarter sections the mass of work entailed in securing the right of way will be realised. When the title to the right of way is required across even numbered sections which are still owned by the Crown, we arrange with the Department of the Interior for a reservation of the area required for the road, but in the case of lands belonging to private individuals or to railway companies, the Hudson's Bay Company, or any of the other corporations owning land, we have to make arrangements for the purchase of the right of way in each case, and in many instances pay a considerable sum for the land required.

At the present time we have at least two thousand cases of title to right of way in process of settlement, and, judging from past experience, the cost of acquiring the title to land involved in these cases will reach the large sum of \$50,000.00. This sum seems startling, but is based on the allowance of \$25.00 for each case, and that estimate is not excessive if we are to be guided by past experience.

In dealing with this matter the fact that the land for roads and other public works is wanted by the Government seems to be thought sufficient

justification, in many instances, for most unreasonable demands in the way of compensation, and many cases have occurred where it has been found necessary to throw upon the owners of the land affected the onus of the settlement of the question of the compensation to be paid by reference to a Judge of the Supreme Court as provided by The Expropriation Ordinance, the road in the meantime being established as a public highway by deposit of the plan in the Registry Office.

Many of the claims filed for compensation are based upon the cost of extra fencing involved, or the fact that roads as surveyed cut off a portion of the quarter sections crossed from a water front, and in these cases considerable difficulty is experienced in fixing the figure which should be paid for the land taken, because in all these cases the quarter section affected derives more or less benefit from the opening up of the road.

In the foregoing remarks reference has only been made to the right of way required for roads, but those remarks apply with equal force to the many cases in which it is found necessary to take land for dams and reservoirs created thereby, for drains and ditches, public wells or any other class of public work, and the unreasonable demands made in the cases of many dams from the owners of lands most benefitted, would of themselves be sufficient justification for the enactment of somewhat drastic laws dealing with this subject.

As bearing upon this question of right of way it is necessary to explain, in view of some of the criticisms to which the Department has been subjected, that many of our most troublesome cases were inherited by the Department from the old district system in force before the organisation of the Department, under which the local member had surveys made, entered into agreements with land owners and generally conducted the whole business connected with the acquirement of title. The trouble in these cases has been caused by the fact that the member failed to file his plans, agreements and other papers connected with these transactions in the Lieutenant Governor's Office, or anywhere else where we have been able to find them, and we are confronted with all kinds of claims based upon these missing plans and agreements which it is impossible now to deal with intelligently or promptly.

The important place which drainage must take in our road improvements in the northern portions of the Territories, during the next few years, is referred to fully further on in these pages, but it is proper that attention should be drawn here to the fact that the moment a drain or ditch leaves a road allowance and encroaches on private land we must have a survey of the necessary right of way made and take steps to acquire the title thereto. This work will certainly add much to the work of the Surveys Branch in the immediate future, and, when complicated, as it is sure to be, with the thousand and one claims for incidental damages which usually arise in connection with all drainage questions, the settlement of this matter will cause much trouble.

Many of the more important roads surveyed last year, and many of those which we are asked to survey, may properly be termed colonisation roads, as they are required to give access, from the newly settled districts springing up all over the Territories, to market centres. In considering the location of these roads the question of the changed conditions which will arise from the extension of railway lines through these new districts must be borne in mind, as it is evident that, in many sections where long distances are now travelled east and west to existing railway lines, short

north and south roads will be needed in the near future to reach main points on the new railway lines which are rapidly being extended to the west.

In the meantime, however, we are forced to open the longer roads and proceed with these improvements, although it seems quite certain that in a comparatively short time these roads will be very little used as main highways.

The usual schedule of surveys made during the past year is given here for reference.

SURVEYS MADE AND ROADS OPENED DURING THE YEAR 1900.

Old Trails.

From St. Albert to Lac Ste. Anne.

Old Mission trail, south from Elbow river, Tps. 24 Rs. 2 and 3 W. 5 M.

Cardston to Mountain View, from point where R. C. Laurie, D.L.S., finished in 1899.

Around Muddy lake on the Victoria and Fort Saskatchewan road (resurvey).

New Roads.

Up McKay hill, on south side of Qu'Appelle valley, Tp. 21 R. 14 W. 2 M.

From Fort Qu'Appelle, along south side of Qu'Appelle valley to bridge over Qu'Appelle river on Sioux Indian reserve and connecting this road with road surveyed from the south to Sioux bridge.

From Bresaylor, ten miles west.

On production of Hudson's Bay Co.'s reserve, west boundary to the south.

From River lot 2 Tp. 47 R. 28 W. 2 M. to Miner's creek.

From south-east corner Sec. 4 Tp. 47 R. 22 W. 2 M. north-west to the north-east corner Sec. 33 Tp. 47 R. 23 W. 2 M.

From Fish Creek ferry to Galician colony, Tp. 42a R. 1 W. 3 M.

From Strathcona to new bridge across Saskatchewan river at Edmonton

From new bridge across Saskatchewan river, east along bank and up Dowler hill.

To bridge over Riviere-qui-Barre, Sec. 12 Tp. 55 R. 27 W. 4 M.

From Edmonton to Beaver lake (completion of survey) including a diversion from 14th base line west to point where Mr. Chalmers, D.L.S., started his survey.

From Edmonton to Cooking lake.

To new bridge on Ross creek, Sec. 7 Tp. 54 R. 21 W. 4 M.

Extension of Edmonton and St. Albert road to connect with Jasper avenue, Edmonton.

Extension of Victoria and Fort Saskatchewan road across Secs. 1 and 2 Tp. 55 R. 23 W. 4 M.

Roads in north of Hudson's Bay Co.'s reserve to give access to Town of Edmonton.

From Strathcona, east, through Sec. 25, 26, 27, 28, 34, 35 and 36 Tp. 52 R. 24 W. 4 M.

Extension of road from Edmonton to Fort Saskatchewan, across river lots 23 and 24 and fractional Sec. 1, and along north bank of Rat creek, to give access to streets running north in Edmonton and also road allowance between River lots 18 and 20.

In Secs. 33, 34, 35 and 36 Tp. 51 R. 23 W. 4 M (resurvey).

In Tp. 54 R. 26 W. 4 M.

From Blackfalds Station through Secs. 23 and 24 Tp. 39 R. 27 and Secs. 19 and 20 Tp. 39 R. 26 W. 4 M.

From Ponoka Station on Calgary and Edmonton Railway, twelve miles east and twelve miles west.

Along centre line north and south Sec. 20 Tp. 38 R. 27 W. 4 M.

Around south end of Coal lake Tps. 46 and 47 R. 23 W. 4 M.

Around Lake Cormier, Sec. 21 Tp. 47 R. 23 W. 4 M.

East and west through Sec. 17 Tp. 38 R. 27 W. 4 M.

East from Village of Red Deer, nine miles along blind line, Tp. 38 R. 27 W. 4 M.

To Yorkton from north-east corner Sec. 18 Tp. 25 R. 2 W. 2 M.

Along Manitoba and North Western Railway, east from Sec. 36 Tp. 23 R. 2 W. 2 M.

To new steel bridge at Cochrane, Sec. 35 Tp. 25 and Sec. 2 Tp. 23 R. 4 W. 5 M.

From DeWinton Station (Macleod and Calgary road) west along north boundary Tp. 21 to Millarville and Calgary road.

From road up north fork of Sheep Creek south to ford on north fork of Sheep creek, thence to Lineham P. O., and thence through Ings valley to north fork on High river.

From Cochrane to Dog Pound creek.
 Across Sec. 11 Tp. 21 R. 1 W. 5 M. over Pine creek to connect with road allowance leading to Macleod trail.
 Up north and middle forks Sheep creek.
 Calgary and Millarville road, resurvey, Secs. 35 and 26 Tp. 21 and Sec. 2 Tp. 22.
 Okotoks to Millarville on north side Sheep creek.
 From Millarville, High River road at Sheep creek, east to Okotoks.
 From High River to Pekisko and west through Thorpe's ranche.
 From Macleod, south, to take place of trail across Piegan Indian reserve.
 From Cardston to Cochrane ranche across Blood Indian reserve.
 From Cardston to Belly river, along south boundary of Blood Indian reserve.
 From Mountain View to Belly river at N.W.M.P. Post.
 From Lyndon P. O. to Macleod and Claresholm Station on the Calgary and Edmonton Railway.
 From Stirling to Magrath.
 From Stirling to Lethbridge.
 From Magrath to Lethbridge.
 From Magrath to junction with Lethbridge-Cardston road.
 From Leavitt, Tp. 2 R. 27 W. 4 M., south to timber.
 From Cardston to Boundary creek.
 From Cardston up Lee's creek.
 Across Qu'Appelle valley north of Summerberry for new steel bridge.
 To new bridge over Weed lake (resurvey).
 From Fort Qu'Appelle to File hills.
 From Ellisboro to Hyde, and Hyde to Pacquette's bridge.
 Across Qu'Appelle valley through Secs. 2, 11, 14 Tp. 18 R. 23 W. Principal M., and also in Sec. 33.
 From Oxbow, west along blind line beginning at north boundary Sec. 15 Tp. 4 R. 2 across Tps. 4 Rs. 2, 3 and 4 W. 2 M.
 Across north-west Sec. 36 Tp. 2 R. 33 W. Principal M. and extending to east across Secs. 31, 32 and 33 Tp. 2 R. 32 W. Principal M.
 From Lacombe to Gull lake, examination and diversions.
 Along correction line between Tps. 54 and 55 Rs. 19 to 22 W. 4 M., examination re drainage.
 From correction line between River lots 16 and 18 to river road Fort Saskatchewan Settlement.

Road Diversions.

To avoid overflow from dam Sec. 7 Tp. 21 R. 11 W. 2 M.
 To avoid ravine north-east $\frac{1}{4}$ Sec. 3 Tp. 20 R. 11 W. 2 M.
 On east boundary Sec 11 Tp. 45 R. 21 W. 2 M. to locate well.
 On north boundary Sec 4 Tp. 45 R. 18 W. 2 M.
 On north boundary Sec. 24 Tp. 45 R. 19 W. 2 M.
 Around lake in Secs. 12 and 18 Tp. 47 R. 27 W. 2 M.
 Around slough on Colleston road, Secs. 2 and 3 Tp. 48 R. 25 W. 2 M.
 To avoid sloughs on Red Deer hill and MacDowall road, Sec. 19 Tp. 46 R. 27 W. 2 M. (resurvey.)
 To avoid building bridges in Sec. 12 Tp. 55 and Sec. 7 Tp. 54 R. 27 W. 4 M.
 To avoid sloughs in Secs. 15 and 22 Tp. 51 R. 25 W. 4 M.
 Around lake in Secs. 32 and 33 Tp. 53 R. 24 W. 5 M.
 Calgary and Edmonton road in Town of Strathcona.
 Around slough in north-east $\frac{1}{4}$ Sec. 3 Tp. 54 R. 22 W. 4 M.
 Around slough in north-west $\frac{1}{4}$ Sec. 33 Tp. 53 R. 22 W. 4 M.
 To cross creek and avoid sloughs east $\frac{1}{2}$ Sec. 26 Tp. 51 R. 25 W. 4 M.
 To avoid ravine and give access to bridge Secs. 23 and 24 Tp. 53 R. 23 W. 4 M.
 Around lake between Secs. 22 and 27 Tp. 54 R. 53 W. 4 M.
 To avoid constructing bridges between Secs. 21 and 28 Tp. 54 R. 22 W. 4 M.
 To avoid slough Secs. 26 and 35 Tp. 50 R. 24 W. 4 M.
 In Sec. 25 Tp. 53 between Rs. 22 and 23 W. 4 M.
 In Sec. 35 Tp. 52 R. 24 W. 4 M., 14th base line at Oliver's creek.
 In Sec. 1 Tp. 53 R. 24 W. 4 M., 14th base line at Fulton's creek.
 Along north boundaries Secs. 19 to 24 Tp. 35 Rs. 26 and 27 W. 4 M.
 To avoid lake and hill Secs. 21 and 22 Tp. 44 R. 22 W. 4 M.
 Around slough in north-west $\frac{1}{4}$ Sec. 8 Tp. 22 R. 32 W. Principal M.
 At Clumber crossing, Big Cut Arm creek, Sec. 10 Tp. 23 R. 1 W. 2 M.
 At Ross crossing, Big Cut Arm creek, Secs. 3 and 10 Tp. 22 R. 1 W. 2 M.
 To avoid slough Sec. 36 Tp. 24 R. 3 W. 2 M.
 To avoid hill Secs. 18 and 19 Tp. 21 R. 1 W. 5 M.
 In Secs. 1, 11 and 12 Tp. 21 R. 3 W. 5 M.
 In south-west $\frac{1}{4}$ Sec. 6 Tp. 22 R. 2 W. 5 M.
 In west $\frac{1}{2}$ Sec. 2 Tp. 22 R. 3 W. 5 M.
 In north-west $\frac{1}{4}$ Sec. 35 Tp. 21 R. 2 W. 5 M.

In south-east $\frac{1}{4}$ Sec 8 Tp. 21 R. 3 W. 5 M.
 To avoid slough Sec. 20 Tp. 33 R. 1 W. 5 M., and subway located.
 On Macleod-International boundary road at Standoff to site of bridge over Belly river.
 In Secs. 32 and 33 Tp. 19 R. 1 W. 2 M.
 In Sec. 26 Tp. 18 R. 3 W. 2 M.
 In Sec. 2 Tp. 19 R. 8 W. 2 M.
 In Secs. 5 and 6 Tp. 19 R. 7 W. 2 M.
 To bridge over the Pipestone creek, Secs. 29 and 30 Tp. 13 R. 33 W. Principal M.
 Across Pipestone valley to bridge, Sec. 33 Tp. 15 R. 6 W. 2 M.
 Across Pipestone valley between Secs. 1 and 6 Tp. 15 Rs. 6 and 7 W. 2 M.
 To avoid lake between Secs. 22 and 23 Tp. 19 R. 9 W. 2 M.
 In Sec. 2 Tp. 19a R. 10 W. 2 M.
 To avoid slough north-west $\frac{1}{4}$ Sec 18 Tp. 19 R. 1 W. 2 M.
 In Sec. 14 Tp. 21 R. 9 W. 2 M.
 At Millberry and Hayden hill, Secs. 3, 10, 11 and 14 Tp. 18 R. 31 W. Principal M.
 Around ravine in Sec. 36 Tp. 15 R. 10 W. 2 M.
 Around ravine in Sec. 1 Tp. 16 R. 10 W. 2 M.
 In Sec. 35 Tp. 16 R. 10 W. 2 M.
 To avoid slough in Sec. 18 Tp. 19 R. 10 W. 2 M.
 To avoid ravine on road to bridge south of Red Jacket, Sec. 7 Tp. 14 R. 32 W. Principal M.
 On west Moffatt road (two small).
 Around slough north-west $\frac{1}{4}$ Sec. 7 Tp. 17 R. 10 W. 2 M.
 In south-east $\frac{1}{4}$ Sec. 22 Tp. 21 R. 9 W. 2 M.
 Along north boundary Secs. 1, 2 and 3 Tp. 48 R. 25 W. 2 M.

Reservoir Sites.

Created by the dam at Moosomin (Brigham dam).
 Created by the dam at Wapella.
 Created by the dam at Grenfell.

Village Site.

Area to be included in the Village of St. Albert.

Reference has already been made to the fact that in many parts of the Territories the ordinary road allowances are useless for public travel owing to natural obstructions, or, if passable, are not yet required as roadways. These facts in the past have been thought sufficient justification by many ranchers and settlers for fencing in such roads, and these actions have sooner or later resulted in trouble. To permit of the matter being properly dealt with so as to avoid friction, and at the same time reach those who desire to do so to fence in and occupy the road allowances not at present needed, regulations dealing with the matter were adopted two years ago, and have been amended from time to time.

The regulations now in force are given herewith for the guidance of those who may desire to make application to occupy road allowances.

Regulations.

In consequence of the increasing practice in many parts of the Territories of unlawfully obstructing surveyed road allowances and highways by the erection of fences, and the large number of complaints which have been received regarding such obstructions, it is deemed expedient to direct the attention of the public to the penalties which may be imposed for such unauthorised obstruction of road allowances and public highways, and at the same time to point out the steps necessary to be taken before any obstruction of the character referred to can be legally erected.

It is recognised that many of the road allowances and surveyed roads which have been set apart for public travel are impracticable as roads, and in some portions of the Territories many of these rights of way, although possible for travel, are not, owing to the sparseness of settlement, at present needed for that purpose. These facts are not, however, of themselves any justification for fencing in or obstructing the road allowances without having first applied for and obtained the proper authority to do so, and this authority can only be obtained by making application to the Lieutenant Governor in Council, in whom is vested, under the provisions of The North-West Territories Act,

the control and management of all road allowances and public highways which have been transferred to the Territories for public use.

To provide for uniformity in making application for authority to fence in road allowances or surveyed roads, and to ensure protection to the public in considering these applications, the following regulations have been adopted:

(1) Any individual or corporation desiring to obtain authority to fence in or otherwise obstruct any road allowance or other surveyed highway must make an application on forms to be obtained from the Department of Public Works, for such authority, and every such application must be accompanied by a plan or sketch illustrating and explaining the position of the portion of roads which it is desired to obstruct, together with such further information as may be necessary to a clear understanding of the manner in which the settlers in the immediate vicinity, and the travelling public generally, will be affected by the granting of the authority asked for.

(2) When he deems it desirable to do so, the Commissioner may require the applicant to furnish a report and plan from a Dominion Land Surveyor showing the roads to be closed, and any other information necessary to a clear understanding of the application.

(3) If it is thought that public notice should be given of any application, the Commissioner may require the applicant to publish a notice in the following form, of his application:

NOTICE.

Application to Close Road Allowance or Surveyed Highway.

Notice is hereby given that..... of.....
has made application to the Commissioner of Public Works, Regina, to fence in and occupy, until needed for public travel, the following road allowances or surveyed highways, viz.....
Any protest against granting the above application must be forwarded to the Commissioner of Public Works within thirty days from date of this notice.

Applicant.

Dated at.....
.....190...

(4) Should it be found, from consideration of the application and the plan and report accompanying the same, that the convenience of the settlers in the immediate neighbourhood, or the travelling public, will not be interfered with by granting the authority asked for, a permission in due form to obstruct the road allowance or public road in question may be issued, but it is to be distinctly understood that such permission will only authorise the obstruction of the road allowance or road until the same is needed for public travel, and will not in any way convey to the applicant any right or title, to the land composing such road allowance or public highway, and further that the obstruction erected under the permission issued must be removed at any time when notice to that effect is issued from this office.

ALL PERSONS who have illegally obstructed any road allowance or public highway are hereby notified that such obstruction must be removed until authority therefor is obtained in the manner above mentioned.

J. S. DENNIS,
Deputy Commissioner.

A schedule of the applications so far granted for occupation of road allowances or surveyed highways is appended.

Applications Granted to Enclose Road Allowances or Surveyed Highways.

Louis O. Garnett.....	Between Secs. 34 and 35 Tp. 6 R. 2 W. 5 M.
Robert Taylor Telford.....	C. and E. surveyed road in north-east $\frac{1}{4}$ Sec. 26 Tp. 49 R. 25 W. 4 M., 1 and 32-100 acres.
Hull Bros. and Co.....	In Fish Creek farm Tps 22 and 23 R. 29 W. 4 M. and Tps. 22 and 23 R. 1 W. 5 M.
P. W. King.....	On east boundary of north-east $\frac{1}{4}$ Sec. 14; fractional south-east $\frac{1}{4}$ Sec. 23 south of river; west of river on north boundary Sec. 23 Tp. 23 R. 1 west 5 M.
Arthur A. Content.....	Portion of C. and E. road in Sec. 20 Tp. 35 R. 28 W. 4 M.
New Oxley Ranch Co.....	On north boundary Secs. 20, 21 and 22 Tp. 6 R. 25 W. 4 M. between Kootenai and Belly rivers; also on west boundary Secs. 20, 21 and 28, same Tp.
John Herron.....	On north boundary north-east $\frac{1}{4}$ Sec. 23 Tp. 6 R. 30 W. 4 M.

A. E. Banister.....	On west boundary Secs. 4 and 5 Tp. 22 R. 28 W. 4 M.
James Nicoll.....	Part of surveyed road in Sec. 30 Tp. 6 R. 29 W. 4 M.
Canadian Pacific Railway Co.	Part of road at Gleichen in south-east $\frac{1}{4}$ Sec. 13 Tp. 22 R. 23 W. 4 M.
Samson and McNaughton.....	On north boundary Secs. 33 and 34 and west boundary Sec. 34 Tp. 24 R. 2 W. 5 M.
Calgary and Edmonton Ry. Co....	Portions of north boundary Secs. 31 and 32 Tp. 32 R. 2 W. 5 M.
Ludger Gareault.....	Part of old road north-west $\frac{1}{4}$ Sec. 35 Tp. 6 R. 30 W. 4 M.
Sir R. W. Cameron	All road allowances within that part of Tp. 10 R. 19 W. 4 M. which lies south of Belly river.
John E. Troughton.....	On west boundary Secs. 1 and 12, south of Bow river Tp. 22 R. 29 W. 4 M.
John Lineham.....	On west boundary Sec. 28 Tp. 20 R. 29 W. 4 M. and portion of Macleod trail in Sec. 29 lying north of south branch of Sheep creek.
Calgary Water Power Co.....	On west boundary Sec. 22 Tp. 24 R. 1 W. 5 M. on island in Bow river.
Peter McLaren.....	Part of Macleod trail in south-east $\frac{1}{4}$ Sec. 25 Tp. 6 R. 30 W. 4 M.
John Thompson.....	On north boundary Sec. 9 Tp. 21 R. 28 W. 4 M. west of High River.
Canadian Land and Rancho Co....	On Swift Current farm, Tps. 14 and 15, Rs. 13 and 14 W. 3 M. On Gull Lake farm, Tps. 12 and 13 R. 19 W. 3 M. On Rush Lake farm, Tp. 17 Rs. 10 and 11 W. 3 M. On Dunmore farm, Tps. 11 and 12, Rs. 4 and 5 W. 4 M. On Crane Lake farm, Tps. 12 and 13, Rs. 22 and 23 W. 3 M. On Stair farm, Tp. 13 Rs. 6 and 7 W. 4 M.
R. A. Wallace.....	On west boundary Secs. 8 and 17 and north boundary Sec. 17 Tp. 19 R. 28 W. 4 M.
Percy Walters.....	On north and west boundary north-west $\frac{1}{4}$ Sec. 10 Tp. 6 R. 1 W. 5 M.
Donald Bell.....	On east boundary north-east $\frac{1}{4}$ Sec. 12 Tp. 6 R. 1 W. 5 M.
L. Bell.....	On east boundary Sec. 5 Tp. 6 R. 30 W. 4 M.
R. J. Christie.....	On east boundary Secs. 11 and 14 and north boundary Secs. 11 and 12 Tp. 4 R. 29 W. 4 M.
H. M. Hatfield.....	On east boundaries Secs. 3, 4, 5 and 8 Tp. 4 R. 28 W. 4 M. On east boundaries Secs. 32 and 33 Tp. 3 R. 28 W. 4 M. On north boundaries Secs. 32, 33 and 34 Tp. 3 R. 28 W. 4 M.
Canadian Land and Rancho Co....	On west boundaries Secs. 10, 11 and 14 and north boundaries Secs. 10 and 11 Tp. 23 R. 27 W. 4 M.; west boundaries Secs. 3, 10 and 14 and north boundary Sec. 10 Tp. 22 R. 28 W. 4 M.; and north boundary west $\frac{1}{2}$ Sec. 34 Tp. 21 R. 28 W. 4 M. On Namaka farm Tps. 22 and 23 Rs. 24 and 25 W. 4 M.
Alberta Rancho Co.....	On north boundary fractional Sec. 20 Tp. 5 R. 30 W. 4 M. On north boundary fractional Sec. 24 Tp. 5 R. 1 W. 5 M. On east boundary north $\frac{1}{2}$ Sec. 13 Tp. 5 R. 1 W. 5 M. On south boundary fractional Sec. 29 Tp. 5 R. 30 W. 4 M. On east boundary Sec. 24 Tp. 5 R. 1 W. 5 M. On east boundary south $\frac{1}{2}$ Sec. 21 Tp. 5 R. 30 W. 4 M. On east boundary south $\frac{1}{2}$ Sec. 15 Tp. 5 R. 30 W. 4 M. On east boundary Sec. 20 Tp. 5 R. 30 W. 4 M. On north boundary Sec. 21 Tp. 5 R. 30 W. 4 M. On north boundary north-east $\frac{1}{4}$ Sec. 10 Tp. 5 R. 30 W. 4 M. On north boundary Sec. 11 Tp. 5 R. 30 W. 4 M. On east boundary north $\frac{1}{2}$ Sec. 10 Tp. 5 R. 30 W. 4 M. On east boundary north $\frac{1}{2}$ Sec. 16 Tp. 5 R. 30 W. 4 M. On east boundary north $\frac{1}{2}$ Sec. 17 Tp. 5 R. 30 W. 4 M. Portion of east boundary Sec. 25 Tp. 5 R. 1 W. 5 M.

W. E. Smith.....	On east boundary Sec. 10 Tp. 9 R. 2 W. 5 M.
H. M. and W. H. Brown.....	On east boundary Sec. 5 Tp. 5 R. 23 W. 4 M.
Alberta Ry. and Coal Co.....	On south boundaries Secs. 5 and 6 Tp. 9 R. 21 W. 4 M. On west boundary south $\frac{1}{2}$ Sec. 6 Tp. 9 R. 21 W. 4 M.
George Riddick.....	Portion of south boundary Sec. 1 Tp. 9 R. 22 W. 4 M.; and portion west boundary north $\frac{1}{2}$ Sec. 31 Tp. 8 R. 21 W. 4 M.
Colin Genge.....	Portion of Macleod-Lethbridge road Sec. 18 Tp. 9 R. 25 W. 3 M.
W. Julius Hyde.....	Portion of Macleod-Calgary road in north-east $\frac{1}{4}$ Sec. 24 Tp. 9 R. 26 W. 4 M.
W. F. Meyers.....	On west boundary Sec. 6 Tp. 10 R. 26 W. 4 M.
The Brackman & Ker Milling Co.....	On west boundary Sec. 16 Tp. 44 R. 20 W. 2 M.
John Copithorne.....	Portion of East Railway avenue, block 87, South Edmonton.
William Miller.....	On east boundary south-east $\frac{1}{4}$ Sec. 6 Tp. 25 R. 4 W. 5 M.
Ludger Gareault.....	Portion of road across the south-east corner of north-east $\frac{1}{4}$ Sec. 17 Tp. 47 R. 27 W. 2 M.
F. W. Godsall.....	Portion of road across north-west $\frac{1}{4}$ Sec. 35 Tp. 5 R. 1 W. 5 M.
L. Bell.....	On east boundary Secs. 10, 11, 14, 23 and south-east $\frac{1}{4}$ Sec. 3, and north boundary Secs. 11 and 12 Tp. 7 R. 1 W. 5 M.
R. A. Ruttan.....	On east boundary Sec. 1 and south $\frac{1}{2}$ Sec. 12 Tp. 6 R. 1 W. 5 M.
Cochrane Rancho Co.....	On portion of east boundary Lot 2, Edmonton.
W. F. Meyers.....	On east boundary Secs. 6, 13, 24 and south-east $\frac{1}{4}$ Sec. 5 Tp. 5 R. 26 W. 4 M.
J. H. Long.....	On north boundary Sec. 7 Tp. 45 R. 21 W. 2 M.
Indian Agent, Belly river.....	On east boundary south-east $\frac{1}{4}$ Sec. 31 Tp. 54 R. 24 W. 4 M. (Permission expired.)
Mary Agnes Bunt.....	On south boundary of Indian Reserve from north-west corner Sec. 10 Tp. 3 R. 25 W. 4 M., east to St. Mary's river.
Fred. Whitlock.....	On east boundary south-east $\frac{1}{4}$ Sec. 5 Tp. 7 R. 29 W. 4 M.
Frank Levasseur & Dolphus Cyr.....	Part of Moosomin-Moose Mountain road across north-west $\frac{1}{4}$ Sec. 14 and south-west $\frac{1}{4}$ Sec. 23 Tp. 10 R. 1 W. 2 M.
Howard and Gordon.....	On east boundary Sec. 12 Tp. 6 R. 30 W. 4 M.
George Levasseur.....	On east boundary north-east $\frac{1}{4}$ Sec. 27 Tp. 23 R. 1 W. 5 M.
Donald McDougall.....	On north boundary Sec. 22 and east boundary of same Sec. Tp. 21 R. 19 W. 2 M.
H. S. Lott.....	On east boundary south-east $\frac{1}{4}$ Sec. 6 Tp. 24 R. 2 W. 5 M.
Rev. J. S. Mahood.....	Part of west boundary Sec. 4 Tp. 47 R. 27 W. 2 M.
Francis Willock.....	On east boundary Secs. 16 and 21 Tp. 6 R. 30 W. 4 M.
Charles Smith.....	On east boundary Sec. 2 Tp. 6 R. 1 W. 5 M.
G. S. H. Lucas.....	On east boundary Secs. 4 and 9 Tp. 36 R. 24 W. 4 M.
Fred. Pelletier.....	On east boundary Sec. 18 and east $\frac{1}{2}$ Sec. 17 Tp. 6 R. 29 W. 4 M.
G. W. Gill.....	On east boundary of south-east $\frac{1}{4}$ Sec. 36 Tp. 6 R. 1 W. 5 M.
John & Wm. F. Lawrence.....	On east boundary Secs. 34, 35, and 36 Tp. 10 R. 27 W. 3 M.
John Cowdry & G. A. Kennedy.....	Lane between lots 28 and 33, Macleod.
Glangarry Rancho Co.....	On east boundary Secs. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 26, 27, 28, 29, 30, and north boundary Secs. 7, 8, 9, 10, 11, 12, 19, 20, 21, 22, 23 and 24 Tp. 12 R. 29 W. 4 M. and east boundary Sec. 36 Tp. 11 R. 30 W. 4 M.
D. A. Purdy.....	Part of east boundary Sec. 3 Tp. 20 R. 21 W. 2 M.
S. Brooks.....	Part of east boundary Sec. 33 Tp. 5 R. 1 W. 5 M.
Martin Macleod.....	Part of east boundary Sec. 28 Tp. 6 R. 1 W. 5 M.
Morgan B. Long.....	Portion of road between Tps. 6 and 7, lying between north-west corner Sec. 32 Tp. 6 R. 29 W. 4 M. and south-east corner of south-west $\frac{1}{4}$ Sec. 4 Tp. 7 R. 29 W. 4 M.

✓ E. St. C. Austin.....	On north boundary west $\frac{1}{2}$ north-east $\frac{1}{4}$ Sec. 32 Tp. 6 R. 29 W. 4 M.
✓ J. Baxandall.....	On south boundary south-east $\frac{1}{4}$ fractional Sec. 18 Tp. 52 R. 23 W. 4 M.
✓ William Norton.....	On south boundary south-west $\frac{1}{4}$ fractional Sec. 18 Tp. 52 R. 23 W. 4 M.
J. S. Parker.....	On north boundary Sec. 22 Tp. 2 R. 27 W. 4 M.
T. F. Earl.....	On east boundary south-east $\frac{1}{4}$ Sec. 33 Tp. 2 R. 27 W. 4 M.
Mary McDougall.....	On east boundary south-east $\frac{1}{4}$ Sec. 28 and north- east $\frac{1}{4}$ Sec. 21 Tp. 21 R. 19 W. 2 M.
E. Stuckey.....	On south boundary south-west $\frac{1}{4}$ Sec. 2 Tp. 6 R. 29 W. 4 M.
G. E. Goddard.....	On west boundary Sec. 22 and north $\frac{1}{2}$ Sec. 15; west boundary north $\frac{1}{2}$ Sec. 14; west boundary Secs. 16 and 10; west boundary Secs. 8, 17 and 20; west boundary Sec. 19; and north boundary Secs. 7 and 8 Tp. 25 R. 3 W. 5 M.
T. E. Jackson.....	On west boundary Sec. 3 Tp. 24 R. 2 W. 5 M.
John Kemmis.....	On west boundary Sec. 19 Tp. 8 R. 1 W. 5 M.
Anderson Bros.....	On west boundary south-west $\frac{1}{4}$ Sec. 9 Tp. 21 R. 3 W. 5 M.

ENGINEERING BRANCH.

Staff.....Assistant Chief Engineer.

The work of this branch is carried on with the Assistant Chief Engineer at headquarters and a staff of some sixty Local Inspectors resident at different points in the Territories, who are employed from time to time in superintending work during its progress or inspecting it after its completion. The preparation of instructions, contracts and correspondence regarding work in the Engineering Branch is dealt with through the Correspondence Branch.

The work specially undertaken by the Assistant Chief Engineer during the past year was as follows:

Number of plans prepared, indexed and recorded.....	82
Number of specifications prepared, indexed and recorded.....	106
Number of contracts prepared with accompanying plans and specifications.....	67

In addition to the work at headquarters the Assistant Chief Engineer laid out and superintended the construction of many of the large bridges, and made surveys in connection with dams and proposed bridges.

The work dealt with through the Engineering Branch was, for purposes of proper Departmental record and reference, divided two years ago under the following headings:

Maintenance and repairs of buildings,
Repairs to public works,
Construction of bridges,
Construction and maintenance of roads,
Maintenance of ferries,
Construction and maintenance of fireguards,
Providing water supply,

and to this list we now have to add the important subject of

Construction and maintenance of drainage works.

The foregoing subdivision of the work is followed in discussing last year's operations.

Maintenance and Repairs of Public Buildings.

Repairs were required to the Legislative and both of the Departmental Buildings during the year. The former building was reshungled and painted, and also provided with a proper ventilating system in the Legislative Chamber.

Both of the Departmental Buildings were painted and the more northerly one provided with a second new heating furnace, and also with some needed skylights to improve the light in the upper offices.

In the early part of the year the urgent necessity for increased accommodation in both the Legislative and Departmental Buildings, and the construction of vaults in the northern Departmental Building, was brought to the notice of the Dominion authorities, but only the repairs above mentioned were authorised. It, therefore, became necessary to meet the overcrowded condition in the northern Departmental Building by constructing a frame addition to the Legislative Building for the Library, so as to permit the Library to be moved from the rooms in the northern Departmental Building. The Library addition was completed in the early fall, and the increased accommodation thus obtained has permitted of a rearrangement of the offices in such a way as to correct the overcrowding of clerks and records, and has at the same time moved the Library to new and comfortable quarters, immediately adjoining the Speaker's quarters in the Legislative Building.

Attention is again directed to the fact that the want of vault space in both Departmental Buildings prevents valuable records being kept safe from destruction by fire, and it is hoped that arrangements can be made for the construction of these vaults at an early date. In this connection it may be pointed out that a fire in this Department would probably destroy records in the Survey and Local Improvement Branches which could only be replaced, if at all, at a very large expenditure.

A great deal of work was done during the past year towards improving the grounds around the buildings, many additional trees being planted, and new lawns and flower beds laid out. The dry weather in the early part of the season retarded the growth of both trees and grass, but a favourable season this year will, it is thought, add to the appearance of the grounds.

The arrangement with the Public School Trustees of Regina, under which quarters were provided for the Normal School in one of the Public School Buildings, expired in September last, and a new arrangement was entered into under which we rent these quarters, lighted and heated, with services of caretaker, at \$1,000.00 a year. This arrangement provides temporarily the quarters required for Normal School purposes, but the time is rapidly approaching when the question of providing a proper Normal School Building will have to be considered.

Repairs to Public Works.

The sum of \$15,997.00 was expended in repairing public works during the past year. The larger portion of this amount was expended in small sums upon the smaller bridges, culverts, dams, etc., which had been

damaged by the unusual freshets experienced in the northern and eastern portions of the Territories. Very few of our larger works required any special expenditure for repairs during the year.

It will be noted that the amount expended on repairs comprised about nine per cent. of our total expenditure during the year for public works, and when this sum is added to the large amount of repair work completed by the Local Improvement Districts, as explained further on, the serious nature of the annual charge for repairs of existing public works will be realised.

It has been pointed out in previous annual reports that the character of structures which our present conditions warrant us in building are certain to require more or less repairs each year, but it is thought that matters can be improved by extending the experiment commenced in 1899 of providing vitrified clay pipe for culverts instead of building them of wood as at present. The pipe culverts will, of course, cost more in the first instance, but if properly put in place are practically indestructible, and the first cost would be the only cost, instead of having to spend an annual amount in renewing these culverts, as is now the case where wood is used in their construction.

The extension of the system of providing steel superstructures for the larger bridges will also do much to reduce the annual expenditure for repairs, and the low price at which steel bridges can now be obtained warrants the statement that all bridges over forty feet span can be built with steel superstructures at a figure which justifies their being substituted for the old fashioned and perishable wooden structures.

The serious matter of repair of bridges each year will be realised when it is stated that at this date we have nine hundred and fifty-three bridges in the Territories belonging to the Department, and, as ninety per cent. of these bridges are wooden structures, the annual expenditure for their repairs must be a serious charge on the yearly Public Works vote. A number of these bridges were built before the existence of railway lines in certain parts of the Territories, and are, therefore, now not much used owing to the change in routes to market centres. Any suggestion, however, that these bridges should be removed or allowed to get into bad repair is always met by vigorous protest, and it would therefore seem that we must look forward to keeping up the large number of bridges mentioned.

Last year special reference was made in the annual report to the repair of the dams erected in the eastern portion of the Territories for the storage of water for domestic purposes and stock watering. These dams now number two hundred and sixty-two, and the question of their repair each year is a serious matter. The dams, as has previously been pointed out, are, in a large majority of cases, simply earth embankments devoid of any protection against wash from the waves in the reservoirs created thereby, and without proper appliances for flushing out the reservoirs during the periods of high water. These dams are, however, materially assisting in a solution of the water problem, and the dry season experienced last year in Eastern Assiniboia revived the interest in their maintenance, which was not so noticeable during the previous wet seasons.

We continued last season the policy adopted in 1899 of trying to put a few of the large dams each year in something like permanent shape, but, judging from requests for improvements and repairs of dams now on file, the time has come for the inspection of all these dams so as to enable a

selection of the more important to be made for immediate attention in the way of permanent improvements. This inspection will require the services of one man for a whole season, but the information obtained would enable us to deal with the matter of maintenance or repair of the dams under a proper system instead of in a somewhat fragmentary manner as we now do.

A schedule of the dams constructed during the past year is given for the purpose of reference.

Schedule of Dams Constructed in 1900.

NAME OF STREAM	LOCATION				REMARKS
	S	T	R	M	
Loon creek.....	11 } 12 }	22	17	2	Partly constructed in 1898.
Ravine.....	29	23	31	1	
Ravine.....	35	15	1	2	
Reservoir in hollow.....	18	19	26	2	
Summerberry creek.....	8	18	8	2	

CONSTRUCTION OF BRIDGES.

One hundred and thirty-seven bridges were constructed during the past year as compared with sixty-one constructed in 1899. The location and general character of the bridges built in 1900 are given in the following schedule.

Schedule of Bridges Constructed in 1900.

NAME OF STREAM AND CROSSING	LOCATION				REMARKS
	S	T	R	M	
Assiniboine river at Fort Pelly....		32	1	2	Steel superstructure 80 ft. span on double pile bents.
Battle river at Ponoka.....	4	43	25	4	Steel superstructure 60 ft. 9 in. span on double pile bents.
Battle river Shantz' crossing.....	25	45	23	4	Wooden truss 50 ft. span, with 40 ft. approaches on piles at either end.
Boggy creek.....	27 } 28 }	18	17	2	Wooden span 18 ft. on framed bents.
Boggy creek (Lumsden to Craven road)	34	19	21	2	Reconstruction wooden span 18 ft. on framed bents.
Boggy creek (on Albert street)....	19 } 24 }	28	19 } 20 }	2	Reconstruction, wooden 40 ft. span on double pile bents.
Big Cut Arm creek, Ross' crossing	3	22	1	2	Reconstruction, span 16 ft. on framed bents.
Big Cut Arm creek, Zimmerman's crossing.....	22	21	33	1	Reconstruction, span 20 ft on framed bents.
Belly river at Standoff.....	16	6	25	4	Steel span 90 ft. on double pile bents with 3 spans of 22 ft. approaches on east side.

Schedule of Bridges Constructed in 1900.—Continued.

NAME OF STREAM AND CROSSING	LOCATION				REMARKS
	S	T	R	M	
Bow river at Cochrane.....	35	25	4	5	Substructure for steel bridge, two spans 150 ft. and one 100 ft. on pile piers and approaches at either end.
Bigstone creek.....	22 } 27 }	46	25	4	Wooden truss span 24 ft.
Beaver creek.....	1	16	30	1	Span 16 ft. on framed bents.
Blindman river.....	27 } 28 }	46	1	5	Log bridge 4 spans of 25 ft. on pile bent piers.
Coal Lake creek, Alberta.....	36	46	23	4	Small bridge 23 ft. long on piles.
Coulee at Gleichen.....	18	22	22	4	Span 18 ft. on framed bents.
Coulee.....	20 } 21 }	17	7	2	Span 16 ft. on posts forming bents.
Coulee.....	21	6	3	4	Span 18 ft on framed bents.
Coulee at Didsbury.....	7 } 12 }	31	1	5	Length 40 ft. on framed bents in 3 spans.
Coulee.....	16	2	25	4	Reconstruction small bridge.
Coulee.....	1 } 36 }	18 } 19 }	13	2	Small bridge, 16 or 18 ft. span.
Creek.....	23 } 24 }	35	28	4	Ordinary small bridges on crib abutments.
Creek near Sparling's.....	29	18	39	4	Span 16 ft. on framed bents.
Creek.....	5 } 6 }	54	21	4	Span 20 ft. on framed bents.
Creek.....	11	44	20	2	Reconstruction span 18 ft. on framed bents.
Creek (Todd creek).....	10 } 11 }	9	2	5	Span 16 ft. on framed bents.
Creek.....	31	45 } 46 }	3	3	Small bridge 16 or 18 ft. span.
Creek.....	11 } 14 }	1	32	1	Reconstruction span 18 ft. on framed bents.
Creeks (two bridges over).....	16	45	4	3	Small bridge of ordinary kind.
Creek (St. Albert to Lac Ste. Anne, Gray's crossing).....					Log bridge 66 ft. long in two spans with crib in centre.
Cut Arm creek.....	2 } 3 }	20	32	1	Span 20 ft. on framed bents.
Deep creek, Fort Saskatchewan to Victoria road.....	16	55	21	4	Truss span 24 ft. on pile bents.
Deep Creek (Doze bridge).....	2 } 34 } 54 }	55 } 54 }	21	4	Bridge and corduroy over sloughs, reconstruction.
Deep creek.....	14 } 15 }	55	21	4	Small bridge, 18 or 20 ft. span.
Deer creek.....	6	29	7	2	Small bridge in dam over old spillway.
Deals creek.....	7 } 18 }	44	4	3	Log bridge 16 ft. span.
Dog Pound creek.....	21 } 28 }	32	3	5	Log bridge 80 ft. span on crib piers with 60 ft. approaches.
Elbow river (Weazel Head crossing)					Steel superstructure 80 ft. span on pile piers 20 ft. apart.
Eagle creek.....	8 } 17 }	34	1	5	Wooden truss span 24 ft. on framed bents.
Eagle creek.....	20 } 29 }	34	1	5	Wooden truss span 24 ft. on framed bents.
Flett's creek, branch of.....	33	43	20	2	Bridge of 14 ft.
Flett's creek.....	16	44	20	2	Reconstruction, lumber 18 ft. span.
Flett's creek.....	10 } 15 }	44	20	2	Reconstruction, small bridge, probably 16 ft. span.
Fulton's creek, River lot 45, Edmonton.....					Span 14 ft. on pile abutments.

Schedule of Bridges Constructed in 1900.—Continued.

NAME OF STREAM AND CROSSING	LOCATION				REMARKS
	S	T	R	M	
Gros Ventre creek.....	8 } 9 }	11	4	4	Wooden truss span 36 ft. with 60 ft. of approaches in 3 spans of 20 ft. on pile bents.
Gerrais creek.....	30	41	1	3	Small bridge built of stones.
Ghost river, Morley trail.....	13	26	6	5	Substructure masonry in one end and pile piers for 125 ft. span taken from old Mitford bridge with 80 ft. of approach on west side on pile bents.
Goose Hunting creek.....	21 } 28 }	45	20	2	Reconstruction small log bridge.
Goose Hunting creek.....	30	44	20	2	Reconstruction small log bridge.
High Hill creek.....	21 } 22 }	18	23	2	Span 16 ft. on framed bents.
Hay Camp creek.....	31 } 32 }	27	5	2	Span 18 ft. on framed bents.
Hay Camp creek.....	27 } 28 }	27	7	2	Span 16 ft. on framed bents.
Jackfish creek, Battleford-Onion Lake road.....	15	46	17	3	Log bridge 4 spans of 25 ft. on log cribs.
Lynes creek.....	23 } 24 }	36	28	4	Incomplete at end of year, lumber on ground for small 16 or 18 ft. bridge.
Lynes creek.....	25 } 30 }	36	27 } 28 }	4	Small bridge on log abutment.
Long creek at Weyburn.....	20 } 21 }	8	14	2	Two spans of 18 ft. on framed bents.
Little White Sand river.....	17	25	3	2	Truss span 36 ft. on double framed bents.
Lake.....	29	45	22	2	Reconstruction small bridge of 10 ft. span.
Moose Mountain creek.....	15 } 22 }	3	2	2	Truss span 40 ft. (skew) on pile bents.
Moose Mountain creek.....	31 } 32 }	8	6	2	Truss span 36 ft. on double framed bents.
Moose Mountain creek, branch of.....	10 } 15 }	8	4	2	Span 16 ft. on stone abutments.
Melfort creek.....	19 } 30 }	45	18	2	Span 18 ft. on framed bents.
Melfort creek.....	33 } 4 }	44 } 45 }	18	2	Material purchased for small 18 ft. span, but bridge not completed.
Manybones creek.....	3 } 4 }	16	17	2	Reconstruction span about 18 ft.
Muskeg lake.....		46	6	3	Small log bridge.
Mac's creek, near Adam's ferry..					Span 18 ft. on framed bents.
Melburn creek.....	6	24	3	5	Log bridge 16 ft. span.
McKell's dam.....	9 } 16 }	17	19	2	Span 18 ft. on pile bents.
Nose creek.....	3	25	1	5	Truss span 30 ft. on framed bents.
North Antler creek.....	20	2	30	1	Span 20 ft. on pile bents.
Oliver creek.....	35	52	24	4	Span 16 ft. on pile bents.
Pot Hole creek, Lethbridge-Cardston road.....	17	7	21	4	Reconstruction span 40 ft. on double pile bents.
Point-aux-Pins creek.....	31 } 32 }	53	22	4	Truss span 24 ft. on pile bents.
Point-aux-Pins creek.....	22 } 27 }	53	22	4	Truss span 24 ft. on pile bents.
Point-aux-Pins creek.....	14 } 15 }	53	22	4	Truss span 24 ft. on pile bents.
Pipestone creek.....	24	46	23	4	Truss span of 18 ft. on pile bents.

Schedule of Bridges Constructed in 1900.—Continued.

NAME OF STREAM AND CROSSING	LOCATION				REMARKS
	S	T	R	M	
Pipestone creek.....	35 } 36 }	46	23	4	Log bridge 57 ft. long on piles.
Pipestone creek (Talbot's crossing)	7 } 12 }	47	24 } 23 }	4	Truss span 40 ft. on double pile bents.
Pipestone creek (Montgomery's crossing).....	24 } 25 }	10	30	1	Steel span 50 ft. on pile abutments.
Pipestone creek (Percy's crossing)	11 } 12 }	12	31	1	Truss span 40 ft. on double pile bents.
Pipestone creek (Parkin's crossing)	9 } 10 }	14	2	2	Span 18 ft. on pile bents.
Pahonan creek (Grey's crossing)	23	46	24	2	Log bridge on log abutments.
Pincher Creek, at Pincher creek village.....	22	6	30	4	Steel span, 80 ft. on pile piers with 20 ft. approaches either end on pile bents.
Pine creek.....	1 } 6 }	22	1 } 2 }	5	Span 18 ft. on framed abutments.
Qu'Appelle river at Ellisboro.....					Steel span 80 ft. on double pile abutments.
Qu'Appelle river, Tregarva-Lumsden road.....	34 } 3 }	19 } 20 }	21	2	Steel span 80 ft. on double pile abutments.
Qu'Appelle river at Round Lake Mission.....	12	18	2	2	Steel span 80 ft. on double pile abutments.
Ravine.....	7	52	24	4	Three spans of 18 ft. on framed bents.
Ravine.....	7 } 12 }	14	32 } 33 }	1	Span 16 ft. on framed bents.
Ravine.....	22 } 23 }	51	25	4	Bridge 40 ft. long in two spans on piles.
Ravine.....	18	45	21	2	Small bridge 16 ft. span of lumber.
Ravine.....	35	42	3	3	Small log bridge.
Ravine.....	20	19	22	2	Span 16 ft. on frame abutments.
Rose Bud creek.....	16 } 17 }	31	1	5	Bridge 40 ft. long in two spans framed centre bent.
Ross creek.....	11 } 14 }	53	19	4	Log bridge, four spans of 20 ft. on log framed bents.
Ross creek.....	33 } 34 }	54	21	4	Temporary bridge.
Ross or Morris creek.....	32 } 33 }	52	18	4	
Ross creek.....	7 } 12 }	54	21 } 22 }	4	Truss span 30 ft. on pile bents.
Ross creek.....	12 } 13 }	54	22	4	Log bridge span 22 ft.
Red Deer creek.....	3 } 4 }	47	27	2	Truss span 24 ft. on pile abutments.
Red Deer creek.....	29 } 30 }	47	26	2	Truss span 24 ft. on pile abutments.
Red Deer creek.....	29	47	24	2	Truss span 24 ft. on pile abutments.
Red Deer creek.....	35	47	25	2	Truss span 24 ft. on pile abutments.
Red Deer creek.....	30 } 31 }	47	25	2	Truss span 24 ft. on pile abutments.
Red Deer river at Red Deer.....					Three steel spans of 125 ft. on piles and crib piers with 40 ft. of approaches.
Riviere-qui-Barre.....	13 } 14 }	55	27	4	Span 24 ft. on framed bents.
Riviere-qui-Barre.....	12 } 13 }	55	27	4	Reconstruction span 24 ft. on framed bents.

Schedule of Bridges Constructed in 1900.—Continued.

NAME OF STREAM AND CROSSING	LOCATION				REMARKS
	S	T	R	M	
Riviere-qui-Barre.....	7 } 12 }	55	26 } 27 }	4	Reconstruction span 25 ft on log crib abutments.
Seven Person's coulee.....	30	12	5	4	Steel span 50 ft. on double pile bents.
Squaw Head creek.....	8 } 34 }	17 } 16 }	2	2	Span 12 ft. on framed abutments.
Squaw Head creek (five bridges)	16 } 17 }	17	2	2	Reconstruction small lumber bridges.
Slough.....	6 } 36 }	55 } 54 }	21 } 22 }	4	Three spans of 16 ft. on pile bents.
Sturgeon river (Creuzot's crossing)	29	55	22	4	Reconstruction 50 ft. truss span on pile piers and approaches 18 ft. both ends.
South Antler creek.....	11 } 14 }	4	34	1	Truss span 40 ft. on double pile bents.
Spring coulee (Lethbridge-Cardston road).....	29	4	23	4	Span 20 ft. with three spans of 18 ft. approaches.
Spring creek.....	34 } 3 }	19 } 20 }	20	2	Small bridge 10 ft. or 12 ft. span on framed bents.
Subway bridge.....	27	30	9	2	Span 9 ft. bridge 20 ft. long on framing.
Thunder creek.....	5 } 6 }	17	27	2	Two 18 ft. spans on pile bents.
Thunder creek.....	1 } 2 }	18	29	2	Two 18 ft. spans on pile bents.
Thunder creek.....	32	16	27	2	Two 18 ft. spans on pile bents.
Thatch creek.....	22	45	19	2	Reconstruction span 16 ft. or 18 ft. on framed bents.
Three Hill creek, branch of.....	24 } 25 }	35	26	4	Span 20 ft. with 20 ft. approaches both ends.
Two creeks, branch of Beaver Hills creek.....	36 } 1 }	55 } 56 }	20	4	Reconstruction small log bridge.
Whitesand river (Theodore bridge)	1	28	7	2	Span 18 ft. on masonry abutments.
Whitesand river (Proctor bridge).....	11 } 12 }	28	5	2	Truss span 36 ft. on double framed bents.
Wascana creek.....	35 } 36 }	15	18	2	Bridge 100 ft. long in 20 ft. spans on pile bents.
Wascana creek.....	30	19	21	2	Truss span with 39 ft. with approaches 24 ft. long at either end.
Willow creek, Calgary-Macleod road.....	28	9	26	4	Steel truss 60 ft. span with 20 ft. approaches at either end.
Whitemud creek.....	10 } 15 }	51	25	4	Truss span 40 ft. on double pile bents.
Weed lake.....	12	16	5	2	Sixteen spans of 20 ft. on pile bents.
Wallace creek.....	12	29	4	2	Span 18 ft on framed abutments.
Wood Mountain creek, east branch		5	3	3	Span 16 ft on framed bents.
Wolf creek.....	23 } 26 }	40	27	4	Span 20 ft. on framed bents.

It will be noted from the information contained in the remarks column of the foregoing schedule that the larger number of bridges constructed during the past year are small wooden structures over minor streams.

Several of the wooden bridges erected were, however, of considerable size and required special designs, and two or three of the large bridges, constructed with steel superstructures, are the most important bridge works so far undertaken by the Department, and require special reference.

The bridge over the Bow river at Cochrane is four hundred and eighty feet long, including the approaches, and consists of three through steel spans, two of one hundred and fifty feet and one of one hundred feet in length, and constructed on pile bents with usual abutment at each end. The steel spans of superstructure are designed for a fourteen foot roadway, and a floor load of eighty pounds per square foot, and are provided with steel lattice railings on each side. The spans are of the Pratt truss design, pin connected, and were supplied by the Gillett-Herzog Bridge Company of Minneapolis, that company having underbid our Canadian bridge companies for this structure. The piers erected for this bridge have been designed upon a somewhat different principle to those built in the past in western streams, the difference consisting in supporting the crib work of the pier on an outside foundation of piles to which the crib is firmly attached. This system prevents the upsetting of the piers so common on western streams owing to the wash of the gravel or boulders upon which they rest, and the inside nest of piles and rock filling serve to make a thoroughly compact and properly bonded structure which will withstand great external pressure from ice or water. The Cochrane bridge has cost complete \$12,000.00, or about \$25.00 per foot of length, and this cost is certainly very low for a permanent structure of this character. The bridge at Cochrane was erected to take the place of a wooden bridge built some years ago across the Bow river a few miles further west at Mitford, which had reached its limit of usefulness and had been seriously damaged by the floods of 1898 and 1899.

Another bridge constructed during the past year, which is deserving of special reference, is that over the Red Deer river at the Village of Red Deer. This was erected to take the place of the wooden bridge at that point destroyed during the extreme floods of 1898. This new bridge is a composite structure consisting of three one hundred and twenty-five feet steel spans with pile and frame crib substructure and, with its approaches, comprises a total length of four hundred and fifteen feet.

The foundation piers are of the same character as those erected for the Bow river bridge at Cochrane and are designed to withstand the extreme floods and heavy flow of drift wood and ice to which the Red Deer river is subject. The steel spans of the superstructures, which were supplied by the Hamilton Bridge Works Company, of Hamilton, Ontario, are of the through Pratt design with riveted connections, and are designed for a fourteen foot roadway with a floor load of eighty pounds to the square foot. The superstructure is provided with a steel lattice guard railing on both sides, and the bridge is a very complete and handsome structure. This bridge cost \$11,000.00, or about \$26.50 per foot of length, the additional \$1.50 per foot over the Cochrane bridge being due to the fact that the piers of the Red Deer bridge are much higher and the water at bridge site deeper than at the former bridge.

Of the smaller bridges with steel superstructures erected during this year, that over the Elbow river at the Weazel Head crossing, and the one over the Assiniboine river at Fort Pelly may be specially mentioned, as these are the first steel bridges which have been erected by the Department on these streams. Both bridges consist of eighty foot through Warren steel riveted spans with double pile bent substructures, and are of the same design as the other bridges of this make and length which we have erected at a large number of other points in the Territories. The bridge over the Elbow river, in addition to the steel span mentioned, had to be

provided with an approach about one hundred feet in length consisting of twenty foot spans on pile bents. These small steel bridges cost about \$20.00 per foot of length.

It will be noted from the schedule that twelve bridges having steel superstructures were constructed during the past year. This number, with the twenty-five previously erected, makes thirty-seven steel bridges which have been constructed by the Department, and it is suggested that in the future all important bridges be provided with steel superstructures, as they are without doubt the most economical structures in the end.

Attention has already been directed to the fact that we now have in the Territories, belonging to the Department, nine hundred and thirty-five bridges and, as a considerable portion of the number consist of large wooden structures, many of which have about reached their limit of life, the reconstruction each year of a certain number of these old bridges, when added to the ever increasing demand for new bridges, makes it certain that the work of bridge building must form an important part of our Departmental operations for some years to come.

The construction of bridges is a class of work which for a number of years to come must be undertaken by the Department, because even the smaller of these structures require some technical knowledge in preparing the designs and superintending the erection, and it will be some years before the Local Improvement Districts will be in a position to employ that technical assistance.

Construction and Maintenance of Roads.

In each of the two previous annual reports attention was directed to the fact that the matter of road improvement is one of the most troublesome problems with which the Department has to deal, and the experience gained during the past year has certainly not added anything to the possibility of satisfactorily solving that problem in the immediate future.

Up to 1899 the demand was for good roads, but, during that year and the past season, the request in the northern and western portions of the Territories has been for passable roads which could be travelled over, even without any load.

Previous to 1899 we had experienced in the Territories a series of years of average rainfall, and as a consequence, the earth roads, whether consisting of those in their natural state or those which had been graded, did not become badly cut up. The wet seasons of 1899 and 1900, however, made many of these roads practically impassable, and in the Prince Albert and Edmonton districts during the past season it was not possible to travel on some of the more important highways even with a light buggy.

This condition of affairs naturally led to much complaint and to criticism of the Department for its failure to improve the roads. The fact that the condition which rendered them impassable also, for the time being, prevented any steps being taken towards their improvement, was altogether lost sight of. In discussing the question of roads, we must assume, as a basis, the fact that so long as we have earth roads we must expect bad roads during wet seasons, and as the conditions in the Territories will not permit of the construction of any other kind of roads for many years to come it must be understood *now* that during certain years good roads will be an *impossibility*.

The experience of the past two years indicates that in the northern portion of the Territories the energies of the Department during the next

few years must be devoted to the matter of drainage of low areas intersected by main roads, before attempting to make any further improvements on these roads. The question of drainage, however, is closely akin to that of the road problem in difficulty of solution, and will necessitate very carefully digested legislation before it can be undertaken on anything like a large scale. It is certain that drainage will do more than anything else to improve the roads in certain portions of the Territories, but the first outlay on the large ditches required to insure a rapid discharge of surplus water from the large areas of low land in those districts must of necessity be large, and in addition we are confronted with the almost innumerable questions of legal rights which have arisen from the construction of such drainage works in the older Provinces of the Dominion.

Surveys were made during the past year for four drainage schemes required in connection with the improvement of main roads in Northern Alberta, and the necessary plans and estimates of cost for these schemes have been prepared.

The following statement shows the location and estimated cost of the drainage schemes in question, but it must be noted that the cost given does not include any sum for purchase of right of way or possible claims for damages.

Schedule of Surveys for Drainage Systems Completed in 1900.

LOCATION	LENGTH OF PROPOSED DRAIN IN FEET	ESTIMATED COST
Creamery flats; along correction line between Tps 54 and 55 in R. 22 W. 4 M. from south-east corner of Tp. 55 to Row creek.	16,790	\$1000.00
do along correction line between Tps. 54 and 55 R. 22 W. 4 M. from south-east corner Tp. 55 to east boundary Sec. 36 Tp. 54 R. 22 W. 4 M.	5,500	150.00
Lake on road in Secs. 18 and 20 Tp. 47 R. 27 W. 2 M.	2,244	525.00
Morinville sloughs south along road commencing between Secs. 21 and 22 Tp. 55 R. 22 W. 4 and ending between Secs. 20 and 21 Tp. 54 R. 22 W. 4 M.	33,174	3030.00

Attention is again directed to the great necessity for adopting a scheme of main highways in the different portions of the Territories, and confining the expenditure each year to the amount available for road improvements to these main roads until they are put in good shape. It is realised that in certain districts the routes to market centres have not yet been permanently fixed and that railway extensions throughout the Territories will change many of the existing routes; but, on the other hand, it is certain that in some districts the main roads as now travelled will be the market routes for many years to come, and in those districts at least our efforts should be strictly confined to improvements of such roads.

The present system of expending available amounts in small sums on several roads in a district is wasteful in the extreme and results in a patchwork method of road improvements which is conducive of no permanent results. The information given further on regarding the large

mass of work in the way of road improvements completed by the Local Improvement Districts last year certainly indicates that the smaller improvements can now be safely left to the districts to complete, and thus enable the Departmental expenditure to be concentrated on the main highways; but even if that desirable end can be reached it must be understood that the matter of making anything like good permanent roads of those main highways must be a question of considerable time and the result of working each year under a definite scheme looking to a defined end.

With good drainage it has been proved in the Territories that earth roads, properly graded and provided with a comparatively thin surface dressing of gravel, will withstand heavy traffic without becoming badly cut up, but in many districts gravel is almost impossible to obtain, and broken stone can only be had at prohibitive figures. It would therefore seem that in those districts we must for some time limit our efforts to providing the drainage and look forward to more or less resurfacing of the roads each year.

On two of the important roads in the northern portion of the Territories it has been found necessary to lay down corduroy on long sections of the road to permit of travel over low places and muskegs. This kind of road, when new and properly constructed, forms a good road bed, but it is not of a lasting character and requires continual repairs after the heavy traffic of the first year or two has worn off the surface covering of clay and exposed the logs forming the foundation. The existing conditions where corduroy roads have been built can be materially improved by drainage, but the construction of drains in these low swamps or muskegs is an expensive undertaking, as the ditches must necessarily be put in by hand, the soft nature of the bottom precluding the possibility of using horses with ploughs and scrapers, as is usual in the sections where the ground is good. These drains must also of necessity cross private property as they cannot be carried to an outlet along the road allowances, and will therefore come under the head of drains for which right of way must be obtained, with the attendant troublesome question of compensation already referred to.

Ferries.

Ferries were operated at the following points last year:

Athabasca river, Edmonton-Peace River road crossing.

Pembina river, do do

Bow river, Blackfoot crossing.

Lesser Slave Lake, at Narrows.

North Saskatchewan river, at Battleford.

do do at Carlton.

do do at Fort Saskatchewan.

do do at Victoria.

do do at Wingard.

do do at Paradis Crossing.

Red Deer river, at Tindastoll.

South Saskatchewan river, at Medicine Hat.

do do at Adams' crossing.

do do at Batoche.

do do at Fish Creek.

do do at Isbister's crossing.

do do at Mackenzie's crossing.

do do at Saskatoon.

In addition to the above we partly completed the work of providing a ferry across the Red Deer river at Prince's crossing, north of Medicine Hat, but did not get the ferry ready for operation before the end of the season. A new scow was provided during the season for the ferry on the South Saskatchewan river at Mackenzie's crossing, and considerable repairs made to several of the other ferries mentioned in the schedule.

A new steam ferry was built during the year, to be operated on the North Saskatchewan river at Battleford, in place of the ferry at that point wrecked during the floods of 1899. The new ferry was built at Edmonton, and is a well equipped and serviceable boat.

Unfortunately, delay in delivering the machinery and low water in the river caused serious delay in getting the boat down the Saskatchewan, and we were not able to get the ferry at work until late in the season, but good service was done after the boat commenced her regular trips, and it is hoped that the great trouble which existed in getting across the river at Battleford during the past two years will now be obviated.

All the above numbered ferries, except those at the Narrows of Lesser Slave lake, and at the Paradis crossing on the North Saskatchewan river, are Government ferries, and, with the exception of that at Fort Saskatchewan, were operated under the system inaugurated in 1898 by which we pay a small monthly bonus, in addition to the fees for ferriage, for operation and care of ferry. This system has permitted of a very low schedule of fees being put in force on these ferries, and has made them public works in the sense that they provide means of crossing unfordable streams at a very low rate of tolls.

The steam ferry at Battleford was operated last season by a crew under daily pay, the tolls being collected by the Department, but it is thought that a satisfactory contract can be entered into for the operation of this ferry during future seasons.

The ferry at Fort Saskatchewan is operated by the village authorities without the payment of any bonus, as the fees from the large amount of ferriage at that point pay for the operation of the ferry.

At Paradis crossing of the North Saskatchewan the ferry is owned by private parties, but a small bonus was paid toward its operation last season as there was not enough ferriage to justify the owner devoting his whole time to the operation without a bonus.

At several points in the Territories ferries have been put in operation by private individuals without having obtained a licence therefor under the provisions of The Ferries Ordinance, and it is suggested that the Ordinance be amended so as to provide for the imposition of a penalty for the operation of unlicensed ferries. This suggestion is made because numerous complaints have been filed in the Department regarding the manner in which these private ferries have been operated. The owners claim that, being private undertakings, they can operate these ferries as they please and charge such tolls as they see fit. As a result the ferries are operated in a very casual manner, and persons who have driven long distances to cross the river at points where these ferries are located often find the owner absent from home and the ferry on the opposite side of the river, or are forced to submit to exorbitant charges if the owner of the ferry does not feel like operating his ferry at a reasonable rate.

Fireguards.

A very extensive system of fireguards, comprising a total length of six hundred and twenty-eight and three-quarter miles, was constructed by the Department during the past season in Southern Alberta and Western Assiniboia, the larger portion of the work being completed as local improvement work in the Large Local Improvement Districts. In Eastern Assiniboia we completed the fireguard around Moose Mountain which has been under way for the past two years, and also constructed several small guards at other points, and reploughed, as local improvement work, the large guard in the Dundurn district.

Owing to the wet season in the north and west, and to greater care in other portions, the Territories enjoyed immunity from extensive prairie or forest fires during the past year, and it is hoped that by providing a thorough system of guards, and with the greater care which seems to be now exercised by settlers and travellers, we may in the future escape the devastating fires which have been so common in past years.

In the northern and western portions of the Territories the unusual amount of rain and the early date at which the snow came in the fall, had, as above mentioned, much to do with the absence of fires, but it is hoped that settlers and travellers will remember that wet seasons induce a luxuriant growth of grass and weeds which produce disastrous fires in the succeeding dry seasons, and will therefore exercise extra caution.

In the two previous annual reports attention was directed to the fact that a large percentage of our fires resulted from sparks from the locomotives on railway lines. This fact is naturally disputed by the railway companies, but that it is a fact can, I think, easily be proved, and in view of the great danger from this cause it is claimed that the railway companies should construct and maintain a more thorough system of fireguards along their lines than those they now have. From a business standpoint it would pay the companies to put in a better system of guards if, by doing so, they can prevent the possibility of fires from their engines, for these fires, in many instances, destroy valuable property and discourage settlement.

Our experience during the past two years indicates that the ordinary prairie fireguard eight furrows wide can be ploughed in the first instance for about \$11.00 a mile, and costs about \$6.00 per mile each year to backset. On some of our larger guards we have adopted the principle of ploughing two eight furrow guards about thirty feet apart so as to permit of burning the grass between and thus provide a guard which will stop almost any fire.

Guards of the latter class cost about \$13.00 a mile to construct and about \$7.00 a mile to backset, but the cost of all fireguards will doubtless decrease as the country becomes more settled and working teams more plentiful.

The question of better protection from fires along the railway lines in the Territories is of such importance that it is again suggested that, if a satisfactory arrangement cannot be made with the railway companies to provide and maintain a proper system of guards, they should be compelled to do so by special legislation. The length of railway line in the Territories requiring protection in this manner is about fourteen hundred miles, and to construct a proper sixteen furrowed guard on each side of the railway line would, at the figures above quoted, cost about \$28,000.00.

These guards would subsequently cost about \$14,000.00 a year to maintain, and it is claimed that both these sums would be well spent if fires were thus prevented from spreading from the railway lines as one bad fire often causes damage amounting to much more than the amounts mentioned.

If these guards were put in by the railway companies some arrangement regarding the completion of a portion of the subsequent work of maintaining them as local improvement work, in the Local Improvement Districts intersected by railway lines along which the guards are constructed, might possibly be made.

Providing Water Supply.

In the eastern portion of the Territories a dry season was experienced last year, and that condition served in many localities to emphasise the natural shortcomings in the way of water supply for domestic use and stock watering. This drawback has been fully dealt with in previous Departmental reports, and as a consequence of last year's conditions a large number of applications for assistance in overcoming the drawback were received, and all our testing appliances were fully used during the season.

As an illustration of the means which are being employed to improve the water supply, the information given in the annual report for 1899 is quoted:

“First. We provide testing augers, which will bore from depths of eighty to one hundred feet, for use by farmers in endeavouring to locate a water supply on their farms which can be subsequently developed by digging.

“Second. We create storage reservoirs upon streams or upon small water courses, which become dry during the summer, so as to store the melting snow or spring rains flowing through these channels until it is needed later in the season, and

“Third, we use deep well drilling machines to provide public wells in districts where the first and second methods fail or are not applicable.

“To carry on the first mentioned system twenty-nine well testing augers are being operated. During the past year a change was made in the system of operating these augers. The old system was to provide a foreman who made tests for farmers, the latter providing the power and assisting to operate auger and boarding the foreman. That system proved unsatisfactory in many ways, and last season we made a change by putting the auger in charge of a responsible person in each district who looks after keeping it in repair and allots it to the farmers desirous of using it, in order of their application. The augers have done good service in several districts in locating water supplies but, as was to be expected, a large number of tests failed to locate water. In one sense the use of these testing augers has proved disappointing and has led to loss of much labour. It frequently happens that the auger tests locate water which promises a good supply, but this supply fails when the necessary well is dug and proves to be a small pocket only which soon becomes exhausted. To obviate this difficulty a pump which could be operated in the small bore made by the augers ought to be provided so that a test of the volume and quality of the supply might be made before finally proceeding with the digging of the well.

“In many districts the tests made last year have only served to emphasise the fact, already suspected, that water cannot be obtained at

reasonable depths, and that only by the use of deep well boring machinery can we hope to develop a supply.

“ A large sum of money has been spent in endeavouring to improve the water supply by the second method above referred to, and at the present time we have some three hundred dams in existence, including structures which cost only a few dollars and others which cost large sums (the Regina dam has so far cost about \$9,000, and others from \$1,500.00 to \$3,500.00). There is no question that the water held in the reservoirs created by these dams has proved of the greatest value in some districts, particularly for stock watering purposes, but this method of correcting nature’s shortcomings is attended with several drawbacks. The dams in a large majority of cases are mere earth embankments unprovided with proper protection against damage by water and as a consequence they are hard to maintain, and if destroyed by the spring freshets cannot of course be rebuilt in time to conserve that season’s flow of water in the channel on which they are located.

“ There is also the more serious drawback, dealt with in last season’s report, that the large majority of these dams are unprovided with any means of flushing out the reservoirs, and as a consequence the accumulation of impurities during many seasons’ use offers a serious menace to public health. The efforts which we have made to meet this drawback by providing low level sluiceways in the more important dams has already been referred to.

“ The third system referred to of trying to develop a water supply by putting down deep public wells is the system to which we are now devoting the most attention.”

During the past year we employed six deep well boring machines in the work of providing public wells in districts where water could not be obtained at ordinary depths. Only a fair measure of success attended our efforts with these machines, and in some districts we have now proved that greater depths will have to be reached than we can manage with the machines we now have before a water supply can be obtained. Unfortunately these conditions exist in well settled districts where some of our best farms are found ; were it otherwise it seems certain that settlement of these areas should be delayed until land becomes sufficiently valuable to justify considerable expenditure in obtaining water.

So far we have provided forty-seven public wells, located at the following points :

Schedule of Public Wells.

LOCATION						YEAR DRILLED	REMARKS
—	¼ S	S	T	R	M		
Maple Creek....		15	11	26	3	1897 & 1899	Depth 260 ft., water good, pump and house
		24 19	18	17	2	1898	Depth 146 ft., water very good, pump and house
	N E S E	33 4	19 20	15	2	1898	Depth 131 ft., water very good, pump and house
		15 22	20	14	2	1898	Depth 126 ft., water good, pump and house

Schedule of Public Wells.—Continued.

LOCATION						YEAR DRILLED	REMARKS
—	¼ S	S	T	R	M		
		20 } 29 }	20	13	2	1898	Depth 124 ft., water good, pump and house
		10 } 11 }	19	10	2	1900	Depth 264 ft., water very good, pump and house
		2 } 3 }	19	10	2	1900	Depth 160 ft., water good, pump and house
		2 } 11 }	19	2	2	1898	Depth 65 ft., water first class, pump and house
		4 } 9 }	19	1	2	1898	Depth 71 ft., water good, pump and house
		6 } 7 }	19	1	2	1898	Depth 49 ft., water good, pump and house
		28 } 29 }	14	2	2	1898	Depth 83 ft., water good, pump and house
		13 } 14 }	12	1	2	1898	Depth 57 ft., water first class, pump and house
	S E	23	40	4	3	1898	Depth 87 ft., water good, pump and house
		33 } 34 }	42	5	3	1898	Depth 98 ft., water good, pump and house
	NW N E	5 } 6 }	44	4	3	1898	Depth 117 ft., water good but hard, pump and house
		33 } 4 }	43 } 44 }	2	3	1898	Depth 94 ft., water good, pump and house
Industrial School		4	44	2	3	1898	Depth 93 ft., water good, pump and house
do do		4	44	2	3	1898	Depth 110 ft., water good, pump and house
		10 } 15 }	44	28	2	1898	Depth 63 ft., water good but hard, pump and house
		12 } 13 }	44	28	2	1898	Depth 170 ft., water good, little supply, pump and house
		2 } 3 }	45a	27	2	1898	Depth 108 ft., water good, pump and house
		33 } 4 }	41 } 45a }	26	2	1898	Depth 83 ft., water good, pump and house
		19 } 30 }	44	26	2	1898	Depth 95 ft., water good, pump and house
		35	42	3	3	1898	Depth 75 ft., water good, pump and house
	S E N E	4 } 33 }	43a } 42 }	4	3	1899	Depth 51 ft., water good, pump and house
	NW S W	36 } 1 }	43 } 42 }	4	3	1899	Depth 83 ft., water slightly iron, pump and house
	S W NW	5 } 32 }	41 } 40 }	4	3	1899	Depth 185 ft., water good, pump and house
	S E N E	30 } 19 }	47	22	2	1900	Depth 116 ft., water good, pump and house
	N E NW	21 } 22 }	45	22	2	1900	Depth 73 ft., water good, pump and house
	NW S W	9 } 16 }	45	21	2	1900	Depth 90 ft., water good, pump and house

Schedule of Public Wells.—Continued.

LOCATION						YEAR DRILLED	REMARKS
—	¼ S	S	T	R	M		
	SW NW	12 1	45	21	2	1900	Depth 340 ft., water good, pump and house
		10 15	44	19	2	1900	Depth 42 ft., water good, pump and house
	NE NW	31 32	44	18	2	1900	Depth 48 ft., water good, pump and house
	NW	20	46	23	2	1900	Depth 87 ft., water good, pump and house
	SW SE	31 36	19	17 18	2	1899	Depth 77 ft., water good, pump and house
	NE NW	8 9	19	18	2	1899	Depth 200 ft., water good, pump and house
	NW SW	10 15	18	24	2	1839	Depth 164 ft., water good, pump and house
	SW SE	18 13	23	28 29	4	1899	Depth 60 ft., water very good, pump and house
	NE NW	16 15	22	29	4	1899	Depth 120 ft., water very good, pump and house
	SE SW	20 21	23	28	4	1899	Depth 40 ft., water very good, pump and house
	NE	13	22	23	4	1839	Depth 125 ft., water soft and good, pump and house
		16 17	18	25	2	1900	Depth 248 ft., water good, pump and house
		3 4	23	28	4	1900	Depth 121 ft., water good, pump and house
		7 12	24	28 29	4	1900	Depth 131 ft., water good, pump and house

At each of the above mentioned wells we provide a pump and erect a pump house so as to make the water supply available for all, and put the well in charge of the local overseer. We find considerable trouble, however, in some districts in keeping the pumps in order, although pumps of the strongest make are provided. This trouble is caused by the distance of many of the wells from centres where repairs can be obtained and from the rough usage to which some of the pumps are subjected. Trouble has also been caused in several instances by the removal of some of the bolts from pumps by parties who evidently think that these bolts will be of more service in their wagons or farm implements than in the pump in a public well.

The deep well boring machines which we are at present operating will not do satisfactory work to a greater depth than three hundred feet, and as we have a number of holes in which tests have been made to that depth without obtaining water, it is suggested that another machine capable of drilling to a depth of five or six hundred feet be obtained, and used in continuing tests at those points to the latter depths. It seems a pity to stop our tests at three hundred feet in districts where water is badly needed, with the possibility that a good water supply might be obtained at five

hundred feet, and a machine can be obtained which could drill the additional depth at a reasonable cost.

After the season for well drilling had closed we brought in all the deep well boring machines to head quarters for the purpose of giving them a thorough overhauling, and also to enable us to fit them with a power auger attachment which, it is expected, will increase their usefulness by permitting the test hole to be bored until rock is encountered, when drilling will be resorted to.

The test augers belonging to the Department were largely used last season in many of the districts in which they are located. Returns of tests with these augers have been received which indicate that in a large number of cases water was obtained by means of these tests. In four districts where these augers were located they were not used and they have therefore been called in so that they may be put in a good state of repair and sent for use to districts where the one auger now there will not meet the demand for its use.

The whole question of the water supply for domestic stock watering purposes in the eastern portion of the Territories is a serious problem and its important bearing upon the extension of settlement, and the comfort of settlers now living in districts where there is a shortage of water, justifies every effort being made to solve the problem. Our experience in dealing with the matter indicates that the system of deep public wells is the proper system for those districts within which it has been proved that water cannot be got at depths of one hundred feet, but in some sections it is thought that better results would be obtained by providing power augers which could be operated in putting down holes from eighteen inches to twenty-four inches in diameter to a depth of one hundred feet on the farms of settlers who are without water. The advantage of this system would be that at points where water was found a well would be provided without further expenditure for digging, and the use of such power augers would finally settle the question whether water can be obtained in the districts where they were operated and enable us to finally determine the localities in which it will be necessary to operate deep well drilling machines.

LOCAL IMPROVEMENT BRANCH.

Staff	{ Clerk in charge
	{ One stenographer and typewriter.
	{ One temporary clerk

The Local Improvement Branch is charged with the administration of the Local Improvement and Village Ordinances.

The work of this branch has extended very rapidly during the past year and is now assuming large proportions. The operations of this Branch give a marked indication of the work now being done throughout the Territories in the way of local improvement by the people themselves. The antagonism to the enforcement of the provisions of the local improvement law, noticeable in some quarters when that law was introduced, has now passed away, and the rural population of the Territories are evincing every desire to bear their share of the burden of necessary improvements by undertaking the larger portion of the work which may properly be termed "local."

In speaking more particularly of the operations of the Branch during the year the work of Local Improvement Districts and Villages are treated of separately, as their work is performed under separate Ordinances.

The Local Improvement Ordinance.

For a proper understanding of the work under this Ordinance it is necessary to divide the remarks under the headings "Small Districts" and "Large Districts," as the Ordinance makes provision for the two classes of districts, and the organisation and work in each are dealt with in a very different manner.

It is proper that the small districts should first receive consideration as they are the more numerous, and are organised and administered under the original provisions of the law.

Small Districts.

There are now organised and in operation in the Territories the following number of Small Local Improvement Districts, the dates of organisation being given for the purpose of reference.

Districts organised, voluntary, in 1890.....	1	
do do in 1893.....	2	
do do in 1894.....	19	
do do in 1895.....	20	
do do in 1896.....	15	
do compulsory in 1897.....	181	
do do in 1898.....	178	
do do in 1899.....	32	
do do in 1900.....	33	
	—	481
Districts disorganised for various reasons		22
		—
Number of districts now in operation		459

The foregoing statement indicates the fact that no matter how desirable the organisation authorised by any law may be, it is not likely to be conducive of very wide spread results so long as it is left to the people interested to adopt voluntarily.

For convenience of reference by those holding lands in the Territories a schedule of Small Local Improvement Districts is appended, with detail of area of district and name and address of overseer.

The work performed by Small Local Improvement Districts during the past years may for the purpose of discussion be summarised as follows:

Amount collected by overseer for taxes for 1900, largely payments by companies and other non- resident land owners.....	\$20,336.62
Number of days worked in commutation of taxes..	42,625
Number of miles of road graded.....	610
do do do cleared.....	477
do do fireguard ploughed.....	1,164
do bridges built.....	183

Number of bridges repaired	158
do culverts built	903
do do repaired	259
do dams built	34
do do repaired	59
do holes, old wells, sloughs, etc., filled ..	2,245
do yards of corduroy completed	16,448
Average amount paid overseer for assessing and overseeing work of the district	\$27.43

A fair valuation of the work performed in small districts last year, as given above, shows that these districts have completed work which would have cost the Department at least \$75,000.00

In the northern and western portions of the Territories the exceptionally wet weather during the summer months caused considerable delay in completing the work in many districts, but the work completed in all the districts, as indicated by this statement, shows a marked increase over that accomplished during the previous year.

The information given in the foregoing statement certainly warrants the claim that The Local Improvement Ordinance is now working satisfactorily, and that the rural population are doing their share of the general work of road improvements. It is safe to assume, as already stated, that the work shown in the schedule referred to would have cost the Department \$75,000.00 to complete, and the Territorial revenue has therefore been relieved to that extent in dealing with the matter of roads and bridges.

During the past season the system inaugurated two years ago, of providing road grading machines and a foreman to operate them in completing district work, was continued, twenty-four road graders being employed in that way. This system is conducive of very good results; first, because road grading done with one of these machines is much better than it would be with the ordinary scrapers employed; and, second, because the road grader foreman, having had experience in road construction, is able to obtain better results than the ordinary overseer.

In last year's annual report reference was made to the system which had been established for notifying those shown by the overseers' annual returns to be in arrears for taxes of the amounts due. The system has resulted in the collection by the Department of a large sum for overdue taxes, and the collection and transfer of these sums to the overseer has probably done more than anything else to satisfy the residents of Local Improvement Districts with the provisions of the law, because it indicates to them that nonresident land owners are being forced to pay their taxes and bear their share of the burden of local improvements.

The system referred to is briefly as follows: At the end of each year, when the overseers' annual returns are received, we mail a notice to each person shown by the return not to have paid his taxes, pointing out that while the law does not require that any notice should be given it is sent so that taxes may not be allowed to accumulate against the land and finally subject it to forfeiture. The sending of these notices of course involves a certain amount of clerical work and cost of postage, but the system last year resulted in our collecting the large sum of \$3,327.00 for such taxes, and this system, together with the final proceedings for the forfeiture of lands for taxes outstanding for two years, referred to more fully further on, has put the matter of the collection of unpaid taxes in Local Improvement

Districts on a first class footing and has done much, as already stated, to satisfy the resident population in Local Improvement Districts with the existing law.

Although the showing regarding work completed by Small Local Improvement Districts last year is in many respects a creditable one, there is no doubt that the weak point in the Local Improvement law is the provision allowing for the commutation of taxes by labour, and it is certain that much more would have been accomplished by the districts during the year had all the taxes been collected in cash and expended in completing work by contract or day labour.

This point was referred to at some length in last year's report, but it is becoming more pronounced each year and is deserving of extended notice here, as the time has certainly come when serious consideration should be given to the amendment of the law so as to do away with the commutation of taxes by labour.

It is admitted that in the early years of the introduction of the Local Improvement law it was desirable to give the resident population an opportunity to commute their taxes by labour so as to get the law introduced and generally understood. That stage has now, however, been passed and the time has come when the right to commute should be done away with and the law made as productive as possible of good results.

In accepting labour in commutation of Local Improvement taxes we are simply beginning where the municipalities of the older Provinces of the Dominion are leaving off, after having proved, by almost half a century of effort, that commuted labour accomplishes very little in the way of permanent road improvements.

It is not necessary to advance any argument in support of the foregoing statement, because the fact that labour performed in commutation of taxes is half hearted is admitted by all. There is, I think, abundant evidence available to indicate that a tax of \$2.00 on a quarter section paid in cash and expended in employing proper labour, will accomplish much more than a tax of \$2.50 on a quarter section commuted by labour, but the fact that the day which any farmer spends with a team in commuting such tax should be worth more than \$2.50 to him, if expended in his farming operations, does not seem to be generally realised.

Our Local Improvement law is well suited to the present requirements of the Territories; it is now understood by the people, and is generally accepted as a required enactment. The work being performed under the law is good work as far as it goes, and is doing much to improve our means of communication between settlements and market centres, but the results obtained under the law would be increased a hundred fold were the commutation clauses of the Ordinance repealed and a straight tax imposed to be expended under proper supervision in completing needed improvements. Many of the more progressive Local Improvement Districts have signified in a general way their desire for this change, but although the amendments to the Ordinance passed in 1899 provided for doing away with commutation upon receipt of a petition from a district, no such petitions have yet been received, and this is only one more case of the failure to introduce needed and desirable changes which results from dependence upon voluntary action by those most interested.

One of the marked objections raised in the early years of the introduction of the Local Improvement law was, that while resident owners would be forced to pay or commute their taxes, nonresident owners, and

more particularly the land owning corporations, would escape taxation. This claim has been disproved by the action taken by the Department, as above indicated, for collection of taxes from nonresident land owners, and in this connection it is interesting to note that, of the \$3,327.00 collected by the Department last year for outstanding taxes in small districts, the larger part was paid by land owning corporations, and it may be safely stated that the time is now in sight when every acre of land in the Territories, which has passed from the Crown, except that granted the Canadian Pacific Railway Company, and which has a statutory exemption, will have to bear its proper proportion of taxation for local purposes. It will also be noted further on, in the information given regarding proceedings taken to forfeit lands for nonpayment of taxes, that the Canadian Pacific Railway Company are paying taxes on lands sold by them, although the patents therefor may not have yet issued.

Large Local Improvement Districts.

In 1899 The Local Improvement Ordinance was amended so as to provide for the organisation of large districts which differ from the small districts in the following important features.

The area of the district is not limited, and districts are erected by an Order of the Lieutenant Governor in Council without any preliminary notice.

There are no limitations as to resident population in the districts, and the tax imposed in the districts is a direct tax of \$2.00 on a quarter section, or $1\frac{1}{2}$ cents an acre, and cannot be commuted by labour.

The taxes imposed are not expended by any local organisation but are paid to the Department, deposited to a trust account for the district and expended, by contract or by day labour, under competent foremen in completing necessary local improvements in the district.

At the date of the issue of last year's annual report the above mentioned provisions of the law were of too recent date to enable us to speak authoritatively regarding the working of the law, or its possible success. We have now, however, had a full year's experience of the organisation and administration of the Large Local Improvement Districts, and I have no hesitation in saying that experience gained indicates that under the provisions of this law a vast amount of useful work can be completed in these large districts at a less cost for management, and in a much more satisfactory manner, than would be possible under any other form of municipal organisation.

The organisation of Large Local Improvement Districts was commenced immediately after The Local Improvement Ordinance was amended as above mentioned, and up to date the undermentioned districts have been organised and the assessment therein completed, the district being given a distinctive name as indicated.

Schedule of Large Local Improvement Districts.

NO	DISTRICT	AREA INCLUDED
500	Calgary	Tps. 22 to 28, Rs. 21, 22, 23 W. 4 M. Tps. 23 to 28 Rs. 24 to 28 W. 4 M. Tps. 24 to 28 R. 29 W. 4 M. Tps. 26, 27, 28 Rs. 1 and 2 W 5 M. Tp. 25, north Bow river, R. 3 W. 5 M. Tps. 26, 27, 28 R. 3 W. 5 M. Tps. 24, 25, 27, 28 R. 4 W. 5 M. Tps. 23 to 28 R. 5 W. 5 M. Tps. 23 to 28 R. 6 W. 5 M.
501	Okotoks	Tps. 20, 21, 22 Rs. 25, 26, 27 W. 4 M. Tp. 22 R. 28 W. 4 M. Tps. 21, 22 R. 2 W. 5 M. Tp. 20 R. 3 W. 5 M. Tps. 20, 21, 22 R. 4 W. 5 M.
502	High River	Tps. 15 to 19 Rs. 20 to 27 W. 4 M. Tps. 1 to 18 Rs. 28 & 29 W. 4 M. Tps. 15 to 19 Rs. 1 to 5 W. 5 M.
503	Pincher Creek	Tps. 7 to 11, Rs. 29 & 30 W. 4 M. Tps. 1 to 4 & 10 to 14 R. 1 W. 5 M. Tps. 3 to 6 & 9 to 14 R. 2 W. 5 M. Tps. 4 to 6 R. 3 W. 5 M. West halves 7 & 8 R. 3 W. 5 M. Tps. 9 to 14, R. 3 W. 5 M. Tps. 4 to 14 to west boundary of Territories.
504	Macleod	Portions of south of Old Man river and west of Belly river of Tps. 1 to 10 Rs. 23 to 28 W. 4 M. Tps. 1 to 4 Rs. 29 & 30 W. 4 M.
505	Cardston	Tps. 1 to 4 Rs. 22, 23, 24 W. 4 M. South and east of Belly river Tps. 1 to 4, south tiers of sections in Tp. 2 R. 25 W. 4 M. Tps. 1, 2 & 3, south of Indian reserve, except Secs. 25, 26, 35 & 36 in Tp. 2, and Secs. 1, 2, 11 & 12 in Tp. 3 R. 26 W. 4 M. Tp. 1 and portion of Tp. 3 south of Indian reserve, Rs. 27 & 28 W. 4 M.
506	Lethbridge	Tps. 10 to 14 Rs. 16 to 20 W. 4 M. Tps. 6 to 14 R. 21 W. 4 M. Tps. 5 to 14 east of St. Mary river in Rs. 22 & 23 W. 4 M.
507	Medicine Hat	Tps. 7 to 14 Rs. 1 to 10 W. 4 M. except Tp. 12 R. 5 and west $\frac{1}{2}$ Tp. 9 R. 2 and east half Tp. 9 R. 3.
508	Maple Creek	Tps. 5 to 14 Rs. 21 to 30 W. 4 M. except Tp. 11 R. 26.
509	Swift Current	Tps. 7 to 20, Rs. 9 to 20 W. 3 M. except W. $\frac{1}{2}$ Tp. 15 R. 13 and E. $\frac{1}{2}$ Tp. 15 R. 14.
510	Wetaskiwin East.	Tps. 42 to 49 Rs. 8 to 19 W. 4 M. Tp. 42 Rs. 20 to 23 W. 4 M.

Schedule of Large Local Improvement Districts. — Continued.

NO.	DISTRICT	AREA INCLUDED
510	Wetaskiwin East.	Tps. 48 to 49 R. 20 W. 4 M. Tp. 49 R. 21 W. 4 M. Tps. 48 & 49 Rs. 22 & 23 W. 4 M.
511	Moose Jaw.....	Tps. 12 to 16 & 20 to 26 R. 26 W. 2 M. Tps. 12 to 15 & 19 to 26 R. 27 W. 2 M. Tps. 12 to 16 & 19 to 26 R. 28 W. 2 M. Tps. 12 to 17 & 19 to 26 R. 29 W. 2 M. Tps. 12 to 26 R. 30 W. 2 M. to R. 8 W. 3 M.
512	Saskatoon.....	Tps. 27 to 28 Rs. 26, 27, 28 & 29 W. 2 M. Tps. 27 to 38 Rs. 1 to 4 W. 3 M. Tps. 27 to 35 Rs. 5 to 6 W. 3 M. Tps. 37 & 38 R. 5 W. 3 M. North $\frac{1}{2}$ Tp. 37 and all of Tp. 38 R. 6 W. 3 M. Tps. 27 to 28 Rs. 7, 8 & 9 W. 3 M.
513	Battleford.....	Tps. 37 to 44 Rs. 10 to 13 W. 3 M. Tps. 40 to 48 Rs. 14 to 16 W. 3 M. Tps. 40 to 46 R. 17 W. 3 M. Part, south of Jackfish lake, of Tp. 47 R. 17 W. 3 M. Tps. 40 to 48 R. 18 W. 3 M. Tps. 44, 47 & 48 R. 19 W. 3 M. Tps. 44 to 48 Rs. 20 & 21 W. 3 M.
514	New Oxley.....	Portions, north of Old Man river, of Tps. 9 to 14 Rs. 23 to 28 W. 4 M. Tps. 12, 13 & 14 Rs. 29 & 30 W. 4 M.
515	Good Spirit	Tps. 32 to 35 R. 3 W. 2 M. Tps. 30 to 35 Rs. 4 & 5 W. 2 M.
516	Good Spirit Creek	Tps. 29 to 32 R. 6 W. 2 M. Tps. 30 to 32 R. 7 W. 2 M.
517	Sheho'	Tps. 30 to 33 R. 8 W. 2 M. Tps. 29 to 33 Rs. 9 to 10 W. 2 M. Tps. 29 to 34 Rs. 11 & 12 W. 2 M.
518	Weyburn.....	Tps. 1 to 13 Rs. 12 to 16 W. 2 M. Tps. 5 to 13 Rs. 17 to 18 W. 2 M.
519	Wetaskiwin West	Tp. 42 R. 24 W. 4 M. Tps. 42 to 48 Rs. 25 & 23 W. 4 M. Tps. 42 to 49 R. 27 W. 4 M. Tps. 42 to 49 Rs. 1 to 6 W. 5 M. Portions, east Saskatchewan river, of Tps. 42 to 49 Rs. 7, 8 & 9 W. 4 M.
520	Rouleau.....	Tp. 14 R. 17 W. 2 M. Tps. 14 and 15 R. 18 W. 2 M. Tps. 9 to 15 Rs. 19 to 25 W. 2 M.

Schedule of Large Local Improvement Districts.—Continued.

NO.	DISTRICT	AREA INCLUDED
521	Long Lake.....	Tps. 21 to 28 Rs. 20 & 21 W. 2 M. Tps. 20 to 28 Rs. 22 to 25 W. 2 M.
522	Touchwood.....	Tp. 22 R. 13 W. 2 M. Tps. 24 to 33 R. 13 W. 2 M. Portion, north of river, of Tps. 21 & 22 R. 14 W. 2 M. West $\frac{1}{2}$ of Tp. 23 R. 14 W. 2 M. Tps. 24 to 33 R. 14 W. 2 M. Portions, north of Qu'Appelle river, of Tps. 21 to 33 Rs. 15 to 19 W. 2 M.
523	Innisfail.....	Tps. 29 to 33 Rs. 28 & 29 W. 4 M. Tps. 29 to 30 Rs. 1 & 2 W. 4 M. Tps. 34 & 35. 4 west tiers of sections of Tp. 36, Tps. 28 to 41 R. 2 W. 5 M. Tp. 39 R. 1 W. 5 M. Tps. 29 to 41 Rs. 4 to 6 W. 5 M. Tps. 29 to 31 & 34 to 41 R. 3 W. 5 M.
524	Red Deer.....	Tps. 39, 40 & 41 Rs. 18, 19 & 20 W. 4 M. Tps. 29 to 41 R. 21 W. 4 M. Tps. 29 to 39 & N. $\frac{1}{2}$ of Tp. 41 R. 22 W. 4 M. Tps. 29 to 41 R. 23 W. 4 M. Tps. 29 to 40 R. 24 W. 4 M. Tps. 29 to 39 R. 25 W. 4 M. Tps. 29 to 34 R. 26 W. 4 M. Tps. 29 to 33 R. 27 W. 4 M.
525	Moose Mountain..	Tp. 12 Rs. 2, 3 & 4 W. 2 M. Tp. 10 Rs. 3 & 4 W. 2 M. Tp. 9 R. 4 W. 2 M. Tps. 10 to 14 Rs. 5 & 6 W. 2 M. Tps. 9 to 14 Rs. 7 to 10 W. 2 M.
526	Estevan.....	Tps. 1, 2 & 5 R. 3 W. 2 M. Tps. 1 & 2 north $\frac{1}{2}$ Secs. 4, 5 & 6 R. 4 W. 2 M. Tps. 2 to 6 Rs. 5 & 6 W. 2 M. Tps. 1 to 7 R. 7 W. 2 M. Tp. 1 & Tps. 3 to 8 R. 8 W. 2 M. Tps. 1 to 8 Rs. 9, 10 & 11 W. 2 M.
527	Antler.....	Tps. 4 to 8 R. 30 W. 1 M. Tps. 4 to 10 R. 31 W. 1 M. Tps. 5 to 10 R. 32 W. 1 M. Tp. 1 & Tps. 5 to 10 R. 33 W. 1 M. Tps. 5 & 6 R. 34 W. 1 M. Tps. 5 & 6 R. 1 W. 2 M.

When the large districts above mentioned were organised, a resident was appointed in each district to make the assessment, he being paid for his services on the basis of ten per cent. of the tax collected. We soon found, however, that the work of assessment could be much more quickly and cheaply performed in the Department, as the information regarding lands disposed of in a district had to be obtained by the Department from the Department of the Interior, the different land offices, the land titles

offices and railway companies, and then sent to the overseer; and this created unnecessary duplication of work and added unnecessarily to the cost. The appointments of outside overseers were therefore cancelled and all the work of assessment centralised in the Local Improvement Branch, Mr. S. C. Wilson, clerk in charge of the Branch, being appointed overseer for each large district.

The change referred to has resulted in a very marked saving in the cost of collecting the taxes in these large districts, as will be noted from the fact that while under the first system adopted it cost ten per cent. of the assessment to make the assessment and to collect the taxes, under the centralised system we have reduced this cost to two and four-fifths per cent., and in addition the change has lessened and expedited the work in a very marked degree.

The assessments in the above numbered districts for the years 1899 and 1900 were as follows:

NO	DISTRICT	ASSESSMENT	
		1899	1900
500	Calgary.....	\$ 3,157.75	\$ 3,044.50
501	Okotoks.....	1,026.00	1,053.50
502	High River.....	1,791.00	1,774.50
503	Pincher Creek.....	110.00	149.00
504	Macleod.....	923.50	921.00
505	Cardston.....	777.00	3,210.75
506	Lethbridge.....	2,534.11	2,499.06
507	Medicine Hat.....	1,994.60	2,336.00
508	Maple Creek.....	3,188.00	3,094.96
509	Swift Current.....	2,091.00	2,109.00
510	Wetaskiwin East.....		
511	Moose Jaw.....	2,727.50	2,682.50
512	Saskatoon.....	2,611.00	2,852.50
513	Battleford.....	717.00	674.50
514	New Oxley.....	4,227.29	4,269.50
515	Good Spirit.....	262.00	220.00
516	Good Spirit Creek.....	80.00	80.00
517	Sheho.....	596.80	592.50
518	Weyburn.....	2,082.00	2,054.00
519	Wetaskiwin West.....		
520	Rouleau.....		1,552.00
521	Long Lake.....		2,115.00
522	Touchwood.....		5,737.80
523	Innisfail.....		3,585.00
524	Red Deer.....		1,996.00
525	Moose Mountain.....		1,074.00
526	Estevan.....		2,139.00
527	Antler.....		1,751.00
		\$31,896.55	\$53,569.57

Up to this date the sum of \$13,318.64 has been received in payment of the taxes imposed under the above mentioned assessments.

The larger portion of the uncollected taxes are due from lands owned by the Hudson's Bay Company, and one or two other companies and individuals, who refuse to pay until forced to do so by legal process. By arrangement with the Hudson's Bay Company a test case was made of the assessment of their lands in the Weyburn district, and that suit resulted in a verdict for the district by the Honourable Mr. Justice Richardson,

before whom the case was tried. An appeal was then taken by the company, which is to be heard at the sitting of the full court in March next, and, if the finding of the lower court is sustained, the company may possibly decide to pay the taxes imposed. Suits have also been entered in the case of the companies and individuals who have neglected or refuse to pay the taxes imposed, but have not yet been decided.

The following statement shows the amount of taxes collected and the sums expended in each district since its organisation, the details of the expenditure being given as provided by the Ordinance in the Public Accounts for the year.

Statement of taxes collected and sums expended in Large Local Improvement Districts since their organisation.

NO	DISTRICT	Taxes Collected	Am't of Expenditure
500	Calgary	\$ 1,296.50	\$ 1,277.23
501	Okotoks	384.50	227.28
502	High River	569.00	933.47
503	Pincher Creek	78.00	53.08
504	Macleod	202.50	57.00
505	Cardston	2,889.76	2,294.35
506	Lethbridge	786.74	546.52
507	Medicine Hat	1,039.05	539.67
508	Maple Creek	1,567.00	1,217.29
509	Swift Current	570.00	561.03
510	Wetaskiwin East		15.48
511	Moose Jaw	186.50	50.88
512	Saskatoon	1,273.00	535.91
513	Battleford	227.39	48.98
514	New Oxley	368.37	100.56
515	Good Spirit		26.46
516	Good Spirit Creek	4.00	22.06
517	Sheho	280.50	338.52
518	Weyburn	597.50	612.79
519	Wetaskiwin West		15.43
520	Rouleau	192.00	37.20
521	Long Lake	63.50	27.76
522	Touchwood	296.08	49.05
523	Innisfail	28.00	28.44
524	Red Deer		42.09
525	Moose Mountain	46.00	31.16
526	Estevan	176.00	66.60
527	Antler	194.75	73.76
	Paid without information as to lands	2.00	
		\$13,318.64	\$9,830.05

The details of the above expenditure are, as has already been explained, to be found in the Public Accounts for the past fiscal year, but to illustrate the character of the work which is being undertaken as district work a summarised statement of the different kinds of work completed is given below:

Number of miles of road cleared	70
Number of miles of road graded	63
Number of bridges and culverts repaired	42
Number of miles of fireguard ploughed	535

It will be noted from the foregoing statement that the larger portion of the expenditure during the past year was for fireguards. This resulted

from the fact that the first large districts organised are situated in the ranching portions of the Territories where fireguards are the greatest want. It may, however, reasonably be expected that the revenue from taxes in the Large Local Improvement Districts will reach the sum of \$50,000.00 during this and succeeding years, and that amount should prove sufficient to permit of all the work of a local character being undertaken as a charge against that sum.

When the Large Local Improvement Districts were formed it was claimed, by some persons, that the tax of one and a half cents an acre would produce a larger revenue than could properly be expended in completing local work. That claim has certainly not been borne out by the experience so far gained in administering these districts, as the demand for work within the districts of a character which should properly be completed as district work has exceeded the sum available for the completion of such work. It is, of course, possible that, when the provisions of the law relating to large districts are working more successfully, and all land owners paying their taxes promptly, the present tax of one and a half cents an acre may in some districts produce a larger revenue than is needed for immediate wants in the district, and it would probably be well to foresee this condition by amending the Ordinance so as to provide that the assessment in any year should be struck at such a rate per acre as would produce only the revenue necessary to meet the estimated cost of a schedule of necessary work decided upon before the rate is struck, together with the cost of administration in the district. A system of the kind proposed could be easily worked out and would effectually prevent any possibility of collecting a larger amount of taxes than could be expended in any one year.

The basis of taxation adopted when the provisions relating to large districts were inserted in the Ordinance, had necessarily to be empirical, but that basis has not so far produced a larger revenue than could properly be expended.

In connection with the expenditure in the large districts during the past year, it should be noted that the year following the organisation of districts is necessarily charged with a capital expenditure for organisation expenses, books and groundwork information of ownership of assessable lands, which will not recur in succeeding years, but even with these added charges the cost of administration of these districts during the first years of life will be found much below the usual cost of the same services under any other form of municipal organisation as we have it in Canada.

Collection of Overdue Taxes.

During the past year steps were taken for the first time to collect Local Improvement taxes from lands two years in arrears by enforcement of the provisions of the Ordinance relating to the forfeiture of such lands to the Crown. This system of collecting outstanding taxes is such a radical departure from the old system of tax sales, and has worked so satisfactorily, that it is worthy of extended notice.

The provisions of the law relating to the matter are briefly as follows: At the end of each year the overseer of a district makes a sworn return to the Commissioner of lands upon which taxes have not been paid during the preceding two years. This return is presented to a Judge of the Supreme Court by the Attorney General, and the Judge appoints a day

for the confirmation of the returns, of which notice is sent to each person having any interest in the lands affected. On the date fixed the Judge confirms the returns for all lands upon which taxes have not been paid, and this confirmation vests the lands in the Crown. The Department then pays the district the taxes due upon such lands. The lands forfeited to the Crown can be redeemed within one year from the date of confirmation of the return, upon refund by previous owners of the taxes paid by the Department, together with costs and a fine of five cents an acre, but if not redeemed within that time they become the absolute property of the Crown to be disposed of as directed by the Lieutenant Governor in Council.

Application for confirmation of overseer's returns of overdue taxes were made during the past year at Edmonton, Red Deer, Calgary, Moose Jaw, Regina, Qu'Appelle, Grenfell, Moosomin, Yorkton, Prince Albert, Carnduff and Whitewood, and the experience gained in dealing with returns at these points enables us to speak in the highest terms regarding the success attending this method of collecting overdue taxes.

It was claimed by some persons, when The Local Improvement Ordinance was amended so as to provide the above mentioned machinery for the collection of overdue taxes, that a large quantity of land would be forfeited to the Crown, and that the Territorial Government would be called upon to provide a large amount to pay the overdue taxes on these lands. That fear has been entirely dispelled by the result of the applications above referred to. Those applications involved many hundreds of quarter sections, but only some forty quarter sections were forfeited to the Crown, the owners of the other lands involved having paid up the arrears before returns were finally presented to the Judge.

The effect of the enforcement of this system is to practically wipe out outstanding claims for overdue taxes in Local Improvement Districts, and to put the districts in possession of the full amount of revenue derivable from that source without any trouble.

It may also be noted that the largest amounts of overdue taxes collected under this system have been paid by the Canadian Pacific Railway Company, the Canadian North-West Land Company, the North British Loan Company, and several of the other land owning corporations, and it is evident that the introduction of the system has done more to impress upon land owners the necessity for prompt payment of Local Improvement taxes than would have resulted from a dozen tax sales of the ordinary kind.

The system of collecting overdue taxes as compared with the old method of tax sales has the following advantages:

1. It relieves the Local Improvement Districts of all the trouble connected with the collection of overdue taxes, and makes them perfectly certain of the full amount of their revenue at a certain date.
2. It does away with all the cumbersome machinery for holding tax sales of lands in arrears of taxes.
3. It obviates all the many difficulties which arise regarding the title of land purchased at tax sales.
4. It prevents the speculation in land which results from the system of selling land for taxes.
5. It returns to the Crown the lands originally obtained from the Crown, the owners of which have neglected to bear their just share of local taxation.

6. It enables the Government, rather than a private individual, to obtain any profit which may result from the ultimate sale of these lands, and to devote such profit to the needs of Local Improvement Districts, whereas under the old system any profit realised from the sale of such lands would go into the pocket of the private individual.

The undermentioned sums, amounting in the aggregate to \$2,389.46, have been collected under proceedings for the forfeiture of lands for overdue taxes and paid to the district as indicated.

NO. OF DISTRICT	AMOUNT COLLECT'D	NO. OF DISTRICT	AMOUNT COLLECT'D	NO. OF DISTRICT	AMOUNT COLLECT'D	NO. OF DISTRICT	AMOUNT COLLECT'D
2	\$ 15 00	73	\$ 32 00	173	\$ 5 00	246	\$ 10 00
9	204 00	78	22 50	178	5 00	259	5 00
13	7 00	81	32 50	182	15 00	264	8 75
14	5 00	95	50 50	184	15 00	295	49 50
16	58 38	101	2 00	185	25 00	296	5 00
17	6 50	105	22 50	190	26 00	297	15 00
19	6 50	106	4 50	191	20 00	299	10 00
21	9 50	107	25 00	192	2 50	302	2 50
22	7 50	108	22 50	193	57 00	303	10 00
23	104 25	109	114 50	194	19 37	304	7 50
24	10 00	118	17 50	196	72 50	306	7 50
23	64 50	122	9 00	200	25 00	307	20 00
31	5 00	125	4 50	203	10 00	309	37 50
34	15 00	128	10 00	205	7 54	310	10 00
35	74 62	129	7 50	207	30 00	311	15 00
39	36 12	131	30 00	209	7 50	315	7 50
40	7 00	136	15 00	210	5 00	316	15 00
42	10 00	137	20 00	211	10 00	317	15 00
45	53 25	138	12 50	214	7 50	318	5 00
46	5 90	139	12 50	216	65 00	322	2 50
49	2 50	148	5 00	219	20 80	332	2 50
50	7 50	149	5 00	221	7 50	333	2 50
52	17 75	152	5 00	222	10 00	352	25 00
55	10 00	154	25 00	224	5 00	356	7 50
59	30 00	157	2 50	225	40 75	371	30 00
63	5 00	164	5 00	237	5 00	389	10 00
66	5 00	166	5 00	238	5 00	398	9 60
68	31 88	167	5 00	240	5 00	399	5 00
69	9 50	170	15 00	242	15 00	424	5 00
70	26 50	172	2 50	243	30 00	441	10 00
71	62 50						

The enforcement of the provisions of The Local Improvement Ordinance relating to the collection of overdue taxes has led to a somewhat general discussion of the provisions of this law as a whole, and it will, therefore, not be amiss to call attention here to a few of the salient features of this Ordinance, and the work undertaken under its provisions.

It is assumed, in the first place, that it is now generally admitted that something in the way of taxation for local improvements is proper, this assumption being based on the fact that the opposition to this Ordinance, noticed at the time of its introduction, has now entirely passed away, and the further fact that the resident rural population of the Territories are now loyally endeavouring to help themselves through the medium of the local improvement organisations. This being the fact, the question arises, Does this law provide the best machinery to enable the people to organise

for the completion of such local work in the way of road improvements as they at present need?

This question can be answered most emphatically in the affirmative, if the experience so far gained in administering the law is considered, and the following facts are advanced in support of such affirmative answer.

At present, and for many years to come, the character of settlement in rural districts, and the value of land therein, make it certain that a heavy tax for local improvements would be a hardship. It is also evident that the character of the improvements required in these districts consists primarily of such work on the main roads as will make them passable with ordinary loads only. These facts being admitted, it will be recognised that the law, under which taxes for the completion of such work are imposed, should be simple in character and designed to raise through such taxation only the amount needed for these road improvements, and its expenditure with the least possible charge for management. This desirable end is reached by The Local Improvement Ordinance with the one weak feature, already referred to, of commutation of such taxes by labour.

Consideration of text books and reports regarding the organisation and administration of rural municipalities throughout Canada leads to the conclusion that vast sums of money have been wasted, particularly in the older Provinces, by the introduction of municipal organisations before the conditions were ripe. These authorities show in a very conclusive manner that municipal organisations invariably exercise the borrowing or bonding privileges granted them, and that municipal indebtedness has not by any means kept up that proportion between debt and expenditure for permanent improvements which good practice would expect. It is also clear that the proportion of cost for operating the municipal machine is a serious charge against revenue, that cost being stated by these authorities to range from fifteen to twenty-five per cent. of the annual expenditure for improvements.

Municipal organisations are, as a rule, ambitious to advance rapidly, and in many cases undertake bonded or debenture indebtedness to enable them to pay bonuses to industries which in the end fail to realise all that is expected of them.

Municipal self government is doubtless one of the cherished rights of the older Provinces, but the most startling commentary upon the system is afforded by the statement presented to the municipal convention held in Toronto last year, that after a half century of municipal effort the sum now required to provide them with good roads equalled the total amount so far expended by the municipalities in their effort to construct such roads.

To come nearer home with a discussion of the matter, it may be pointed out that, in the Manitoba municipalities adjoining the eastern boundary of the Territories, the annual tax upon a quarter section for local improvements is at least twice what it is in the local improvement districts in the Territories adjoining the boundary, and an inspection on the ground certainly does not indicate that the residents of the municipalities have any better roads or bridges than are to be found in our local improvement districts.

Our Local Improvement Ordinance, with the important amendment doing away with commutation of taxes by labour, and with a few minor amendments to simplify the administration of districts, certainly seems to meet the present requirements of the Territories, and, from the standpoint of road improvements, is in advance of the much more elaborate municipal organisation.

For the purpose of comparison with the cost of municipal administration, it may be pointed out that the information previously given regarding work completed in both Large and Small Local Improvement Districts last year indicates that the cost of administration of these districts, including assessment, overseeing and inspecting work, and generally all cost connected with the operations of the districts, only amount to two and four-fifths per cent. of the sums expended in improvements as compared with the average charge of at least twenty per cent., which is the showing under municipal organisation.

List of Local Improvement Districts with Description of and Name of Overseer.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO.
West Principal Meridian.			
Range 30			
Tp 1.....	R. H. Henderson.....	Gainsborough, Assa.....	152
2.....	Simpson Shaw.....	do.....	156
3.....	Gavin Law.....	do.....	150
9.....	William Stephen.....	Heron, Assa.....	158
11.....	Kenneth Corbett.....	Fleming, Assa.....	163
10.....	William Stableford.....	Lippentott, Man.....	172
12.....	Henry Davis.....	Fleming, Assa.....	295
13.....	Robert Vance.....	do.....	296
14.....	John Mullen.....	Moosomin, Assa.....	298
15.....	M. Davis.....	Welwyn, do.....	299
16.....	Harry Bayless.....	do ".....	297
17.....	.....	.....	301
19.....	Emerson Blygh.....	Spy Hill, ".....	494
22.....	Peter McFadyen.....	Langenburg ".....	135
23.....	Philip Popp.....	do ".....	133
Range 31			
Tp 1.....	Jacob G. Burke.....	Elmore ".....	142
2.....	Peter Blacklock.....	Gainsborough, Assa.....	160
3.....	William J. Miller.....	Carievale ".....	144
11.....	Robert Percy.....	Fairlight ".....	175
12.....	A. W. McClure.....	Moosomin, ".....	302
13.....	Thomas Wains.....	do ".....	303
14.....	R. J. Phin.....	do ".....	304
15.....	Malcolm McNeil.....	do ".....	305
16.....	Albert Webster.....	Hillburn, ".....	306
17.....	James Murphy.....	Rocanville, ".....	307
18.....	John A. Brown.....	Spy Hill, ".....	308
19.....	Franklyn Perrin.....	do ".....	417
21.....	Fr. Hildebrandt.....	Langenburg, ".....	79
22.....	Christian Fieseler.....	do ".....	88
23.....	Adolph Backer.....	do ".....	124
24.....	.....	do ".....	497
25.....	Casper Ragiber.....	Logberg, ".....	411
26.....	.....	.....	498
Range 32			
Tp 1.....	J. W. Harris.....	Workman, ".....	161
2.....	Thomas Wilson.....	Carnduff, ".....	167
3.....	W. J. Foster.....	Carnduff, ".....	157
4.....	John Campbell.....	Carievale, ".....	484
11.....	George Faulkner.....	Rossetti, ".....	18
12.....	Madison F. Fry.....	Valley, ".....	191
13.....	Harry Holmes.....	Moosomin, ".....	309

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA		NAME OF OVERSEER	P.O. ADDRESS	DIST. NO
West Principal Meridian.				
Range 32.— <i>Con.</i>				
Tp	14.....	Roderick McCormick.....	Arrochar, Assa.....	310
	15.....	George L. Martin.....	Wapella, ".....	311
	16.....	Joseph Goodman.....	Hillburn, ".....	312
	17 east two tiers of Sections only.....	James Murphy.....	Rocanville, ".....	307
	17 except two east tiers of Sections.....	Alexander McRae.....	Carnoustie, ".....	313
	18.....	James Ormiston.....	Dongola ".....	314
	19.....	John Salkeld.....	do ".....	448
	20.....	Archibald Park.....	Redpath, ".....	86
	21.....	Michael Buckborger.....	Langenburg, ".....	94
	22.....	Henry Roberts.....	Churchbridge, ".....	143
	23.....	G. J. Heinrickson.....	do ".....	132
	24.....	J. Einarrsson.....	Logberg, ".....	82
	25.....			499
Range 33				
Tp	2.....	Samuel Robertson.....	Carnduff ".....	149
	3.....	George Melton.....	do ".....	154
	4.....	Allan O. Pringle.....	do ".....	182
	10.....	Alex. Calder.....	Wawota, ".....	166
	11.....	Alex. Calder.....	Wawota, ".....	166
	12.....	A. H. Salmon.....	Riga, ".....	315
	13.....	Donald McKinnon.....	Earlswood ".....	316
	14.....	Colin Campbell.....	Wapella, ".....	317
	15.....	Archibald Hare.....	do ".....	318
	16.....	Benjamin Wainman.....	do ".....	319
	17.....	Charles Bond.....	Carnoustie, ".....	320
	18.....	William M. Gordon.....	Hazel Cliffe, ".....	321
	19.....	John Salkeld.....	Dongola, ".....	448
	20.....	Archibald Park.....	Redpath, ".....	220
	21.....	William Rowland.....	Riversdale, ".....	96
Tp	22.....	Henry Roberts.....	Churchbridge, ".....	143
	23.....	J. Heinrickson.....	do ".....	132
	24.....	J. Einarrsson.....	Logberg, ".....	82
Range 34				
Tp	1.....	James Porter.....	Boscurvis, ".....	176
	2 fr.....	Samuel Robertson.....	Carnduff, ".....	149
	3 fr.....	George Melton.....	do ".....	154
	4 fr.....	Allan O. Pringle.....	do ".....	182
	7 fr.....	R. H. Wiggins.....	Dennington, ".....	474
	8 fr.....	Philip Cook.....	Cannington Manor, Assa.....	452
	9 fr.....	Geo. D. Dickin.....	Cannington Manor, Assa.....	182
	10 fr.....	Thomas Wetherald.....	Glen Adelaide, Assa.....	173
	11 fr.....	Alex. Calder.....	Wawota, ".....	166
	12 fr.....	A. H. Salmon.....	Riga, ".....	315
	13 fr.....	Donald McKinnon.....	Earlswood, ".....	316
	14 fr.....	Colin Campbell.....	Wapella, ".....	317
West Second Meridian.				
Range 1				
Tp	1.....	James Porter.....	Boscurvis, ".....	176
	2.....	Thomas G. Willard.....	Glen Ewan, ".....	162
	3.....	James McIntosh.....	Oxbow, ".....	164
	4.....	Murdoch McMurchy.....	Oxbow, ".....	153
	7.....	R. H. Wiggins.....	Dennington, ".....	474
	8.....	Philip Cooke.....	Cannington Manor, Assa.....	452
	9.....	George D. Dickin.....	do do ".....	184

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO
West Second Meridian.			
Range 1.— <i>Con.</i>			
Tp 10.....	J. C. Crichton.....	Glen Adelaide, Assa.....	173
11.....	John A. McPherson.....	Wawota, ".....	271
12.....	Wm. McVicar.....	Fairmede, ".....	130
13.....	John Kidd.....	do ".....	128
14.....	John McDonald.....	Benbecula, ".....	137
15.....	W. Tudge, Senr.....	Wapella, ".....	440
16.....	William Elliott.....	do ".....	120
17.....	W. R. Carson.....	Whitewood, ".....	123
18.....	Joe Kruppa.....	Kaposvar, ".....	124
19, 19a, and 20 south of Little Cut Arm creek.....	Stephen Barath.....	do ".....	105
19 and 20 north of Little Cut Arm creek.....	Chas. H. Leftwitch.....	do ".....	99
21.....	Frederick I. Basken.....	Kinbrae, ".....	136
22.....	John C. Bird.....	Clumber, ".....	9
23.....	C. W. C. Saunders.....	Saltcoats, ".....	8
24.....	Ernest Cass.....	do ".....	5
25.....	Thomas Jowsey.....	do ".....	10
27.....			531
28.....			532
Range 2			
Tp 1.....	Angus Stalker.....	Boscurvis, ".....	168
2.....	Thomas H. Gregson.....	Oxbow, ".....	268
3.....	Jacob Hutchinson.....	do ".....	145
4.....	Thos. Dickin.....	do ".....	141
5.....	Richard Watson.....	Dalesboro, ".....	483
6.....	Robert Hume.....	do ".....	478
7.....	George Brack.....	Dennington, ".....	189
8 and 9.....	John Rutherford.....	Cannington Manor, Assa.....	178
10 Sections 1, 24, 25, 26, 34, 35 and 36 only.....	J. C. Crichton.....	Glen Adelaide, Assa.....	173
11.....	George Kivell.....	High View, ".....	486
13.....	John Dickey.....	Poplar Grove, ".....	147
14.....	Theodore James.....	Whitewood, ".....	114
15.....	W. A. Mann.....	do ".....	129
16.....	P. M. Gillis.....	do ".....	113
17.....	L. Robertson.....	do ".....	100
18.....	J. P. Noydin.....	Ohlen, ".....	103
19, 20, and 19a, south of Little Cut Arm creek.....	Alex. Stenberg.....	Ohlen, ".....	104
22.....	Thos. A. Wiley.....	Perley, ".....	16
23.....	J. W. McGregor.....	Saltcoats, ".....	9
24.....	Gilbert Hughes.....	do ".....	7
25.....	John Jowsey.....	do ".....	84
26.....			533
27.....			534
28.....	Charles H. Lakey.....	Mulock, ".....	453
Range 3			
Tp 3.....	David McKnight.....	Alameda, ".....	148
4.....	John O. Truscott.....	do ".....	155
6.....	Jeremiah Coffey.....	Dalesboro, ".....	151
7.....	E. Richardson.....	Carlyle, ".....	250
8 and 9.....	John D. Stewart.....	Arcole, ".....	186
11.....	D. M. Murray.....	High View, ".....	165
13.....	Alfred Law.....	Montgomery, ".....	395
14.....	John Dovell.....	Whitewood, ".....	119
15.....	Stephen A. Hall.....	do ".....	112

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO
West Second Meridian.			
Range 3.—Con.			
Tp 16.....	John King.....	Whitewood, Assa....	98
18, 19 and 19a north and east of Round lake.	Nils Dahl.....	Ohlen, ".....	394
North $\frac{1}{2}$ 22 and Tp. 23.....	Robert Maddaford.....	Crescent Lake, ".....	11
24.....	William S. Outhwaite.....	Yorkton, ".....	420
25.....	Charles Peaker.....	do ".....	127
26.....	Charles Beck.....	do ".....	89
27.....	William McDougall.....	Wallace, ".....	492
28.....	John Schmidt.....	Yorkton, ".....	410
29 west $\frac{1}{2}$ only.....	John Tetlock.....	Tetlock, ".....	447
Range 4			
Tp 3 and south $\frac{1}{2}$ Tp 4.....	John B. Ewen.....	Alameda, ".....	384
7.....	W. R. Jefferson.....	Clare, ".....	180
8.....	Willard Scarrow.....	Arcola, ".....	270
11.....	J. E. Henry.....	Fletwode, ".....	183
13.....			292
14.....	J. F. Cunningham.....	Fitzmaurice, ".....	146
16.....	Sam. H. Field.....	Broadview, ".....	115
Fr 18, south $\frac{1}{2}$ 19 and fr 19a.....	Thomas Bawdon.....	Cotham, ".....	244
22, except Sections 1, 2, 3, 4, 5, 6, 10, 11 and 12 and Tp 23.....	Thomas W. Magrath.....	Crescent Lake, ".....	4
24.....	John McInnes, Junr.....	Yorkton, ".....	371
25.....	Malcolm Lang.....	do ".....	170
26.....	David M. Fergus.....	do ".....	3
27.....	Adolph Milbrandt.....	Ebenezer, ".....	252
28.....	James Sanderson.....	Whitewood, ".....	251
29.....	John Tetlock.....	Tetlock, ".....	447
Range 5			
Tp 1.....	W. H. Dorsey.....	North Portal, ".....	365
7.....	James Brown.....	Clare, ".....	284
8 and 9.....	John Hislop.....	do ".....	238
15.....	Wm. Evans.....	Broadview, ".....	116
16.....	Wilfrid Wilde.....	do ".....	364
Fr 18, south $\frac{1}{2}$ 19, and fr 19a.....	Thomas Bawdon.....	Cotham, ".....	244
23 and 24 north two tiers of Sections.....	John Kovacz, Junr.....	Yorkton, ".....	378
25.....	Robert Roussay.....	do ".....	428
26.....	Gilbert Stainger.....	do ".....	253
27.....	John Keilo.....	do ".....	174
28 and south $\frac{1}{2}$ 29.....	Henry W. Cooper.....	Whitesand, ".....	254
North $\frac{1}{2}$ of Tp 29.....	John Tetlock.....	Tetlock, ".....	447
Range 6			
Tp 1.....	Robert Dunbar.....	North Portal, ".....	185
7.....	Henry McCartney.....	Coteau, ".....	188
8 and 9.....	George Hall.....	Percy, ".....	181
15.....	Albert Dash.....	Broadview, ".....	102
16.....	Jacob Croll.....	do ".....	101
19 and 20.....			493
Sections 25, 26, 27, 34, 35 and 36 in Tp 23 and east $\frac{1}{2}$ Tp 24.....	John Kovacz, Junr.....	Yorkton, ".....	378
25 west half only.....	James Malcolm, Senr.....	do ".....	427
25 east half only.....	Robert Roussay.....	do ".....	428
26 east half only.....	Gilbert Stainger.....	do ".....	253

List of Local Improvement Districts with Description of and Name of Overseer. — Continued.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO.
West Second Meridian.			
Range 6.— <i>Con.</i>			
Tp 26 west half only.....	Ed. Fred. Everest.....	Theodore, Assa....	380
27 and Secs. 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17 and 18 in T ₁	George Fernie.....	do "	171
28.....	Henry W. Cooper.....	Whitesand, "	254
28 two east tiers of Secs. only			
28 Secs. 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33 and 34 only.....	A. C. Tracey.....	Theodore, "	368
29 Secs. 5, 6, 7, 8, 17, 18, 19, 20, 29, 30, 31 and 32 only...			
30 Secs. 5, 6, 7 and 8 only.....	C. T. Hayes.....	do "	369
Range 7			
Tp 8.....	Ernest Guillemin.....	Alma, "	177
15.....	Philip Leech.....	Grenfell, "	61
16.....	Fred. Aston.....	do "	62
17.....	Angus McPherson.....	do "	75
18.....	G. D. Fitzgerald.....	do "	60
19 and 19a, portions south of river.....	Norman McLeod.....	Hyde, "	388
20.....	Martin Hehn.....	do "	93
19 portion north of river.....	John Gravy.....	do "	389
25.....	James Malcolm, Senr....	Yorkton, "	427
26.....	Ed. Fred. Everest.....	Theodore, "	380
27.....	William W. Spencer.....	do "	379
28.....	A. C. Tracy.....	do "	368
29 and two south tiers of Secs. in Tp 30.....	C. T. Hayes.....	Theodore, "	369
Range 8			
Tp 2 except village of Estevan.	W. J. Hobbs.....	Estevan, "	140
15.....			345
16.....	James S. McDonell.....	Grenfell, "	346
17.....	James McCowan.....	Summerberry, "	347
18, 19 and 19a, south of Qu' Appelle river.....	James Brown.....	Ellisboro, "	348
18, 19 and 19a, north of Qu' Appelle river.....	James Browne.....	do "	349
20.....	Fred. Tressel.....	Neudorf, "	80
21.....	John Matthews.....	Pheasant Forks, "	78
25 east $\frac{1}{2}$ only.....	James Malcolm, Senr....	Yorkton, "	427
26 east $\frac{1}{2}$ only.....	E. F. Everest.....	Theodore, "	380
28 Secs. 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27 and 28 only.....	A. C. Tracey.....	Theodore, "	368
28 Secs. 31, 32, 33, 34, 35 and 36 only.....			
29 and two south tiers of Sec- tions in Tp 30.....	James Prowse.....	Theodore, "	370
Range 9			
Tp 15.....	Adam Johnston.....	Moffatt, "	350
16.....	Harry Crittenden.....	Adair, "	351
17.....	T. Ellis.....	Wolseley, "	352
18 and 19a.....	Geo. P. Campbell.....	Ellisboro, "	353
19.....	J. B. Hermiston.....	do "	354

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO
West Second Meridian.			
Range 9.— <i>Con.</i>			
Tp 20.....	Charles Stuart.....	Pheasant Forks, Assa.....	76
21.....	Luther Brown.....	do ".....	72
29 two east tiers only.			
30 Secs. 1, 2, 11 and 12 only.	James Prowse.....	Theodore, ".....	370
Range 10			
Tp 15.....	James Pollock.....	Moffat, ".....	355
16.....	John H. Rigney.....	Wolseley, ".....	356
17.....	Frank Gates.....	do ".....	357
18 portion south of river.....	David Sexsmith.....	Ellisboro, ".....	358
18, 19a and 19 north of river.....	James Balfour, Senr.....	Hill Farm, ".....	359
20.....	John Stueck.....	Chickney, ".....	64
21.....	H. M. Aldous.....	Lorlie, ".....	74
Range 11			
Tp 15.....	V. R. Vogier.....	Montmartre, ".....	367
20.....	J. Morrison.....	Abernethy, ".....	19
21.....	E. W. Webster.....	Balcarres, ".....	330
22 west of Indian reserve.....	Arthur Newstead.....	Fort Qu'Appelle, ".....	462
Range 12			
Tp 20 portion north and east of Qu'Appelle river and lakes.....	Charles Stephens.....	Saltoun, ".....	27
20 portion south and west of Qu'Appelle river and lakes.....	Hugh L. Cargo.....	Fort Qu'Appelle, ".....	398
21.....	Joseph Shore.....	do ".....	190
22.....	Arthur Newstead.....	do ".....	462
Range 13			
Tp 20 and that portion south of river and lake of Tp 21.....	Hugh L. Cargo.....	Fort Qu'Appelle, ".....	398
21 portion north of river and lake.....	Thomas Redmond.....	do ".....	426
22 Secs. 31, 32, 33 and 34 only.....			
23 four west tiers of Secs only.....	William Hayes.....	Hayward, ".....	456
Range 14			
Tp 20.....	Cyrus Booth.....	Fort Qu'Appelle, ".....	397
21 south of river and lake and including H.B. reserve.....	Alfred Dunsby.....	do ".....	399
22 Secs. 35 and 36 only.....			
23 two east tiers of Secs. only.....	William Hayes.....	Hayward, ".....	456
Range 17			
Tp 15.....	Henry Eutenier.....	Kronau, ".....	65
16.....	Jacob Hicks.....	Hicksvale, ".....	85
17.....	J. A. McGirr.....	Balgonie, ".....	87
18.....	Jakob Kohlruss.....	do ".....	138
19 and 20.....	James Cameron.....	Edenwald, ".....	50
Range 18			
Tp 16.....	William Clancy.....	Regina, ".....	131

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO
West Second Meridian.			
Range 18.—Con.			
Tp 17.....	Samuel Gilbert.....	Regina, Assa....	70
18.....	W. J. German.....	do ".....	122
19.....	William White.....	do ".....	49
44.....	A. E. Guinn.....	Melfort, Sask....	117
45 Secs. 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 21, 22, 23, 26, 27, 28, 29, 30 only.....	Samuel Boyle.....	do ".....	386
Range 19			
Tp 16.....	Philip Nickalls.....	Regina, Assa....	421
17.....			413
18.....	Charles Simpson.....	Regina, Assa....	107
19.....	Andrew Ormiston.....	do ".....	108
21.....	Robert Mollard.....	Kennell, ".....	110
44.....	T. N. Irvine.....	Melfort, Sask....	121
45 Secs. 1, 2, 3, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 34, 35, 36 only.....	Samuel Boyle.....	do ".....	386
Range 20			
Tp 16.....	Peter Horn.....	Regina, Assa....	193
17.....	Joseph Boyd.....	do ".....	196
18.....	Robt. G. Fitzpatrick.....	do ".....	91
19.....	John E. Petrie.....	Tregarva, ".....	109
20.....	Isaac W. Sutton.....	do ".....	90
44.....	William Flett.....	Flett's Springs, Sask....	449
Range 21			
Tp 16.....			488
17.....	Sanders Howe.....	Pense, Assa....	126
18.....	John Mullen.....	Wascana, ".....	139
19.....	S. S. Dickson.....	Lumsden, ".....	118
20.....	Leslie H. Hoskins.....	Craven, ".....	291
44 Secs. 21, 22, 25, 26, 27, 28, 30, 31, 33, 34, 35, 36 only.....			
45.....	Robert Hartley.....	Kinistino, Sask....	106
Range 22			
Tp 16.....	Thos. Clark.....	Pense, Assa....	63
17.....	William Cator.....	do ".....	243
18.....	C. E. Fish.....	Cottonwood, ".....	92
19.....	William Smith.....	Lumsden, ".....	95
45.....	W. H. Stretton.....	Weldon, Sask....	194
46.....			169
48 portions of each township 49 lying between rivers...	James Dunlop.....	Birson, Sask....	375
Range 23			
Tp 17 Secs. 31, 32, 33, 34, 35, 36			
18.....	Thomas Brooks.....	Stony Beach, Assa....	179
46.....	George Taylor, Junr.....	Brancepeth, Sask....	97
48 and 49, portion of each township between rivers	J. R. Smyth.....	Steep Creek ".....	374

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P. O. ADDRESS	DIST. NO
West Second Meridian.			
Range 24			
Tp 17.....	Nelson T. Allcock	Pasqua, Assa....	264
18.....	John A. Fleurey.....	Stony Beach, "....	204
46.....	Jas. Isbister.....	Birch Hills, Sask....	461
47 and 48, portions between rivers	George S. Reid.....	Colleston, Sask....	377
Range 25			
Tp 17.....	.....	Assa....	201
18.....	Daniel Gilmour	Moose Jaw, "....	34
19, fr. south of Buffalo lake	Robert McCartney.....	Point Elma, "....	57
46.....	Peter Campbell.....	Puckahn, Sask....	376
47.....	F. D. Cherry.....	Prince Albert, "....	373
48.....	Thos. McCloy	do "....	372
Range 26			
Tp 17.....	David Copeland	Moose Jaw, Assa....	276
18.....	W. J. Glover.....	Moose Jaw, "....	242
19 south of Buffalo lake...	Robert McCartney.....	Point Elma, "....	57
Fr 45 including River lots 1, 2, 3	.....	.....	.....
46 including River lots.....	Chas. Sutherland.....	Halero, Sask....	366
47.....	Hiram P. Harkness.....	Prince Albert, "....	246
48 including River lots 52 to 82 inclusive and all of Hudson Bay Co.'s reserve not included within the town of Prince Albert	Alexander McBeth.....	do "....	265
Range 27			
Tp 16.....	E. N. Hopkins.....	Pioneer, Assa....	200
17.....	Ben. Smith.....	Moose Jaw, "....	36
18.....	Thos. Winn.....	Marlborough, "....	203
45 including River lots 1 to 24 inclusive and Secs. 25, 26, 27, 34, 35 and 36 only.	.....	.....	.....
46 east half only.....	A. D. Boylan.....	Prince Albert, Sask....	245
45 south of river with River lots.	.....	.....	.....
45a.....	Franx I. Hauser.....	St. Louis, "....	288
45 west half only and River lots 25 to 43 inclusive...	Norman McLeod.....	Willoughby, "....	416
47 part not included in districts 391 and 392	Joseph Finlayson.....	Prince Albert, "....	248
47 Secs. 1, 2, 3, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27 only	C. J. Cook.....	do "....	391
47 Secs. 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21 only.....	James Adams.....	Kirkpatrick, "....	392
Range 28			
Tp 16 Secs. 1, 12, 13, 24, 25, 26 only.....	E. N. Hopkins.....	Pioneer, Assa....	200
17.....	Joseph Getty.....	Caron, "....	205
18.....	W. McBride.....	do "....	206
43 Secs. 21, 22, 23, 24, 25, 26, 27, 34, 35, 36 only.	.....	.....	.....
44	.....	.....	.....
45a	.....	.....	.....

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO
West Second Meridian.			
Range 28.—Con.			
Tp 45 south of river including River lots 1 to 12 inclusive	Azaric Gareau	Garonne, Sask.....	439
Fr 46	Malcolm McLeod.....	Willoughby, ".....	281
Fr 47 except Secs 1, 2, 13, 24.	Denis Duffy.....	Lily Plains, ".....	247
Tp 47 Secs. 35 and 36 and River lots 1 to 51 inclusive.			
48.....	Joseph Finlayson.....	Prince Albert, ".....	248
47 Secs. 1, 2, 13, 14 only.....	James Adams.....	Kirkpatrick, ".....	392
Range 29			
Tp 18.....	H. C. Brown.....	Caron, Assa.....	215
West Third Meridian.			
Range 1			
Tp 44.....	Chas. Damasse Racette	Duck Lake, Sask.....	287
46.....	Hector McDonald.....	Willoughby, ".....	281
47 including River lots 1 to 14 inclusive.			
48 fr.			
49 portion south of Saskatchewan river.....	Denis Duffy.....	Lily Plains, ".....	247
Range 2			
Tp 42 and 43a.....	J. B. Friesen.....	Rosthern, ".....	331
43 and 44.....	Alcide Marcotte.....	Duck Lake, ".....	125
48 Secs. 28, 29, 30, 31, 32, 33 only and			
49 west half only.....	Samuel Halliwell.....	Shellbrook, ".....	337
Range 3			
Tp 40.....	J. H. Klaassen.....	Rosthern, ".....	338
42.....	Peter Siemens, Junr.....	do ".....	333
43 and 43a.....	Heinrik Wall.....	do ".....	334
44.....	John Dallas.....	Wingard, ".....	335
45 and 46.....	A. N. Peterson.....	do ".....	336
48 Sec. 29, 30, 31, 32 only and			
49 west two tiers of sections only	Robert Sterling.....	Shellbrook, ".....	385
48 Secs. 25, 26, 27, 28, 33, 34, 35, 36 only and			
49 east four tiers of sections only and			
50 Secs. 1, 2, 3, 4, 9, 10, 11, 12 only.....	Samuel Halliwell.....	do ".....	337
Range 4			
Tp 40.....			338
42.....	Diedrich Epp.....	Rosthern, ".....	466
43.....	Peter Heppner.....	do ".....	340
44 except Secs. 1 to 7 inclusive and H. B. reserve	John J. Dyck.....	do ".....	341
45 portion south of Saskatchewan river and including H. B. reserve and River lots 1 to 7 inclusive	C. H. Kallfleisch.....	Carlton, ".....	477

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO
West Third Meridian.			
Range 4.—Con.			
Tp 48 Secs. 25, 26, 27, 28, 29, 32, 33, 34, 35, 36 only	Samuel Halliwell	Shellbrook, Sask....	337
49 except Secs. 6, 7, 18, 19, 30, 31, 32, 33, 34, 35, 36....	Robert Sterling.....	do "	385
Range 5			
Tp 36.....	Thomas Copeland	Saskatoon, "	393
42.....	D. D. Neufeldt.....	Rosthern, "	343
43.....			
44 portion south of river including River lots 9, 10, 11 and Young Chipewyan Indian reserve....	Peter Harms	do "	344
Range 6			
Tp 36 except part of Sec. 1 lying south of river and south half of 37.....	Henry Smith.....	Saskatoon, "	280
36 part only of Sec. 1 south of river.....	Thomas Copeland.....	Saskatoon, "	393
42.....			475
Range 13			
Tp 15 west half.....	William Rutherford....	Swift Current, Assa....	383
Range 14			
Tp 15 east half.....	William Rutherford....	do "	383
Range 16			
Tp 42.....	R. G. Speers	Battleford, Sask....	234
Range 17			
Tps 47 and 48, portions north of Jackfish lake.....	Thomas Duhaime	Jackfish Lake, Sask....	232
Range 18			
Tps 45 and 46, portions between Battle and Saskatchewan rivers and Thunderchild's Indian reserve.....	Alex. R. Chisholm.....	Bresaylor, "	233
Range 19			
Tps 45 and 46, portions between Battle and Saskatchewan rivers and Thunderchild's Indian reserve.....	Alex. R. Chisholm.....	do "	233
Range 26			
Tp 11.....	David Kearns.....	Maple Creek, Assa....	197

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P. O. ADDRESS	DIST. NO
West Fourth Meridian			
Range 2			
Tp 9 west half.....	James Robinson.....	Josephsburg, Assa....	444
Range 3			
Tp 9 east half.....	James Robinson.....	do ".....	444
Range 5			
Tp 12.....	George Jenkins.....	Dunmore, ".....	445
Range 15			
Tp 56.....	Patrick Boland.....	Manawan, Alta....	51
Range 16			
Tp 56.....	James Hamilton.....	Whitford, ".....	482
57.....			471
Range 17			
Tp 51.....			402
52.....	J. D. McAllister.....	Beaver Lake, Alta....	403
58.....	Peter Erasmus.....	Pakan, ".....	487
Range 18			
Tp 50.....	P. N. Jerning.....	Northern, ".....	400
51 west of Beaver lake.....	Joseph Norn.....	Tofield, ".....	403
52 west of Beaver lake.....	John C. Wood.....	Ross Creek, ".....	404
55.....	E. S. Harris.....	Edna, ".....	446
56.....	Harry Belcher.....	Wostok, ".....	407
Range 19			
Tp 45.....	Jamieson Crawford.....	Duhamel, ".....	476
50.....	Hugh Mitchell.....	Logan, ".....	405
51 west of Beaver lake.....	Joseph Norn.....	Tofield, ".....	401
53.....	Abel Hallberg.....	Fort Saskatchewan, Alta	406
54.....			256
55.....	Robert Swan.....	Star, Alta....	40
56.....	Alfred Gray.....	do ".....	43
57.....	Peter Keinisch.....	do ".....	465
Range 20			
Tp 43.....	C. W. Peterson.....	Edna, ".....	450
44.....	Wm. Bredeson.....	Duhamel, ".....	464
45 and 46, south of Battle river and Driedmeat lake	G. T. Campbell.....	do ".....	328
45 east of Driedmeat lake	Jamieson Crawford.....	do ".....	476
46 balance.....	Zilbert H. Hills.....	do ".....	432
55.....	John Nix.....	Fort Saskatchewan, Alta	41
56.....	Julius Lilge.....	Bruderheim, Alta....	56
57.....	Sapat Loposzynski.....	Star, ".....	470
Range 21			
Tp 43 east Red Deer lake.....	C. W. Peterson.....	Duhamel, ".....	450
43 west Red Deer lake.....	John Bergman.....	Wetaskiwin, ".....	430
44.....	Charles F. Kezar.....	Lewisville ".....	457

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO
West Fourth Meridian.			
Range 21.—Con.			
Tp 45 four south tiers of sections only.....	P. O. Haukedahl.....	Duhamel, Alta....	437
45 two north tiers and 46 south of river and including River lots 25 to 48 inclusive.....	F. M. Walker.....	do ".....	255
46 north of Battle river and including River lots 1 to 24 inclusive.....	J. L. Pearson.....	do ".....	237
47.....	W. A. Montgomery.....	Wetaskiwin, ".....	455
48.....	John Moe.....	do ".....	433
53.....	J. E. Cryderman.....	Agricola, ".....	459
54.....	David Simpson.....	Beaver Hills, ".....	20
55.....	John Fluker.....	Fort Saskatchewan, Alta	17
Range 22			
Tp 40 and south half of 41.....	William Cook.....	Lamerton, Alta....	229
43.....	John A. Bergman.....	Wetaskiwin, ".....	430
44.....	John G. Wilcher.....	Lewisville, ".....	435
45 east and south of Battle river.....			
46 east of Battle river.....	Benjamin Schantz.....	do ".....	77
46 north of Battle river and Pipestone creek.....	J. L. Pearson.....	Duhamel, ".....	237
46 west of Battle river and south of Pipestone creek.....	E. W. Whittaker.....	Wetaskiwin, ".....	59
47.....	Charles A. Klyft.....	do ".....	451
52.....	Robert Easton.....	Edmonton, ".....	458
53.....	T. G. Pearce.....	Agricola, ".....	2
54.....	Wm. Simmons.....	do ".....	31
55 south and east of river and River lots 1, 3, 5, 7.....	John Fluker.....	Fort Saskatchewan, Alta	17
55 north and west of Saskatchewan river and including River lots 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26.....	C. S. Godbout.....	Lamoureux, Alta....	222
56.....	Vital Cousineau.....	Fort Saskatchewan, Alta	223
Range 23			
Tp 43.....	O. C. Ravensberg.....	Wetaskiwin, Alta....	429
44.....	Ellev Bye.....	do ".....	431
45 south and east of Battle river.....	Benjamin Schantz.....	Lewisville, ".....	77
45 balance.....	William Abbott.....	Wetaskiwin, ".....	220
46 west Battle river and south Pipestone creek.....	E. W. Whittaker.....	do ".....	59
46 north and east Pipestone creek.....	J. L. Pearson.....	Duhamel, ".....	237
47 south and west of Coal lake.....	Thomas Dahl.....	Wetaskiwin, ".....	228
47 balance.....	Charles A. Klyft.....	do ".....	451
50.....	F. Getziorski.....	Beaumont, ".....	485
51.....	Leander Fulton.....	Strathcona, ".....	48
52.....	Samuel Galley.....	do ".....	32
53 north and west of river and including River lots 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40 and 42.....	Francis C. Clare.....	Edmonton, ".....	68

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO
West Fourth Meridian.			
Range 23.—Con.			
Tp 53 south and east of river and including River lots 25, 27, 29, 31, 33, 35, 37, 39, 43 and 45.....	J. G. Ottewell.....	Clover Bar, Alta....	39
54 north and west of river and including River lots 28 and 30.....	James Cram.....	Horse Hills "....	23
54 south of river and including River lots 9, 11, 13, 15, 17, 19, 21.....	William Simmons.....	Agricola, "....	31
55.....	R. Robinson.....	New Lunnon, "....	73
56.....	Alex. Lewis.....	New Lunnon "....	230
Range 24			
Tp 41.....	D. C. Hartle.....	Urquhart "....	479
43.....	James Aylwin.....	Ponoka, "....	491
45.....	Fred. Stimson.....	Wetaskiwin, "....	241
46 except village of Wetaskiwin.....	A. S. Rosenroll.....	do "....	240
47.....	Frank Lucas.....	do "....	434
48.....	Gottlieb Schindel.....	Leduc, "....	438
49.....	Daniel Schelin.....	do "....	37
50.....	William Heatley.....	Strathcona, "....	35
51.....	Elias Dixon.....	do "....	159
52 including River lots 1, 3, 5, 7, 9, 11, 13, 15, 15a, 17, 19, 21, 23, 23a, and 25a...	Thomas Hewitt.....	do "....	47
53 portion north of Saskatchewan river.....	Francis O. Clare.....	Edmonton, "....	68
53 portion south of Saskatchewan river.....	J. G. Ottewell.....	Clover Bar, "....	39
54.....	John Meneely.....	Edmonton, "....	30
55.....	C. McLaughlin.....	Namoo, "....	42
56.....	George Mulligan.....	New Lunnon, "....	69
57.....	Damase Demers.....	Morinville, "....	489
Range 25			
Tp 2 Secs. 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36 only.			
3 portions north of St. Mary's river of Secs. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 23 only.....	James Quinton.....	Cardston, "....	56
40.....	E. G. Glanville.....	Lacombe, "....	236
41.....	D. Foran.....	Urquhart, "....	414
42.....	R. J. McCue.....	Ponoka, "....	326
43 except Sec. 4.....	James Aylwin.....	do "....	491
46.....	L. D. Hanna.....	Wetaskiwin, "....	327
47.....	Frank Lucas.....	do "....	434
48.....	Fred. Falkenburg.....	Leduc, "....	425
49 except village of Leduc.....	R. Stewart.....	do "....	21
50.....	Andrew Pogue.....	Strathcona, "....	22
51 and fr. 52 south of river.....	James Groves.....	Whitemud, "....	24
52 fr. part north of river.....			
53 including River lots 50 to 55 inclusive, except the area of the village of St. Albert.....	Ed. Carey.....	Edmonton, "....	45

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO
West Fourth Meridian.			
Range 25.— <i>Con.</i>			
Tp 54 including River lots 16 to 49, 56 to 64, 18a to 26a all inclusive, except the area of the village of St. Albert.	Arthur Guilbault.....	St. Albert, Alta....	52
55.....	A. A. Ringnette.....	Morinville, "....	235
56.....	N. Sylvester.....	do "....	226
57.....	Menessippi Massie.....	do "....	490
Range 26			
Tp 2 Secs. 25, 26, 35, 36 only.			
3 Secs. 1, 12 only.....	James Quinton.....	Cardston, "....	56
35.....	W. S. Bilton.....	Innisfail, "....	83
36.....	Hiram Letts.....	Edwell, "....	325
37.....	Henry Towers.....	Red Deer, "....	323
38 portion south of river.			
39 portion south of river.....	Elias Code.....	do "....	278
39 portion north of river.....	John B. Hunter.....	Lacombe, "....	460
40 except village of Lacombe	John N. Poole.....	do "....	259
41.....	David McDonald.....	do "....	408
42 fr.....	R. J. McCue.....	Ponoka, "....	326
48.....	Fred. Falkenburg.....	Leduc, "....	425
49.....	Robert Duncan.....	do "....	424
50.....	Jacob Oswald.....	Strathcona, "....	218
52 fr.....	S. J. Eccles.....	Spruce Grove, "....	28
53 south of Sturgeon river and Big lake.			
53 portion south of Sturgeon river and Big lake, including River lots 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, and A to I all inclusive	Wm. Reid.....	Edmonton, "....	46
54 including River lots 5, 6, 7, 8	L. Lambert.....	St. Albert, "....	55
55.....	Denis Hebert.....	do "....	55
55.....	John McRae.....	Riviere-qui-Barre, Alta.	192
56.....	Fred. Beandry.....	St. Albert, "....	277
Range 27			
Tp 2 east of Belly river.....	Samuel Webster.....	Mountain View, Alta....	58
34.....	Anthony Smith, Senr....	Innisfail, "....	262
35.....	James N. McLean.....	do "....	66
36.....	William Inglis.....	Penhold, "....	324
37.....	Christopher White.....	Red Deer, "....	322
38 portions west and north of Red Deer river.			
38 portion south of river.....	S. McCannell.....	do "....	258
39.....	Peter Reid.....	Waghorn, "....	278
40.....	Joseph Drader.....	Lacombe, "....	467
41.....	D. G. McLean.....	do "....	225
49.....	W. Buckell.....	do "....	468
50.....	P. E. Dalquist.....	Leduc, "....	422
52.....	S. J. Eccles.....	do "....	423
53 and fr. south $\frac{1}{2}$ 54.	Spruce Grove, "....		28
55 and north $\frac{1}{2}$ of fr. 54.	Daniel Brox.....	do "....	29
	William Cyr.....	Riviere-qui-Barre, Alta.	38
Range 28			
Tp 2 east of Belly river.....	Samuel Webster.....	Mountain View, Alta....	58
19.....	W. B. Thorne.....	High River, "....	213
20.....	A. G. Stewart.....	Gladys, "....	409
21.....			

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO
West Fourth Meridian.			
Range 28.— <i>Con.</i>			
Tp 22 portion south of river.....	Harold Banister.....	Davisburg, Alta....	207
34.....	Edward Bothamley.....	Innisfail, ".....	221
35 except village of Innisfail.....	Wm. Champ.....	do ".....	71
36 west of Red Deer river.....	Geo. Duncan.....	Tindastoll, ".....	81
36 east of Red Deer river.....	George Fleming.....	Penhold, ".....	396
37 portion east of Red Deer river.....	Ebenezer W. Green.....	do ".....	473
37 portion west of Red Deer river.....	Fred. Merriam.....	Red Deer, ".....	481
38 south of river.....	S. McCannell.....	do ".....	278
38 and 39 portions west and north of Red Deer river.....			
40.....	Angus French.....	Lacombe, ".....	469
50 fr.....	P. E. Dahlquist.....	Calmar, ".....	423
51 fr.....	Frank Sieh.....	Stony Plain, ".....	25
52 fr.....	J. B. Butchart.....	do ".....	26
53.....	Israel Umbach.....	Spruce Grove, ".....	44
54 fr. north ½ of.....	William Cyr.....	Riviere-qui-Barre, Alta.....	38
54 fr. south ½ of.....	Daniel Brox.....	Spruce Grove, ".....	29
Range 29			
Tp 5.....	James Taylor.....	Pincher Creek, Alta....	363
6.....	Lachlan Bell.....	do ".....	360
19.....	S. A. Roberts.....	High River, ".....	441
20 except village of Okotoks.....	Alex. McRae.....	Okotoks, ".....	211
21.....	J. A. Grierson.....	Grierson, ".....	214
22.....	Wm. Hinde.....	Calgary, ".....	293
23.....	George Madge.....	do ".....	234
34 fr.....	Edward Bothamley.....	Innisfail, ".....	221
Range 30			
Tp 5.....	James Taylor.....	Pincher Creek, ".....	363
6.....	Lachlan Bell.....	do ".....	360
West Fifth Meridian			
Range 1			
Fr. 5 and 6.....	Wm. R. Lees.....	Pincher Creek, ".....	361
7 portion south of Middle Fork R.....	W. A. Borthwick.....	do ".....	362
7 portion north of Middle Fork.....	H. G. Nash.....	Livingstone, ".....	418
8 west half only.....	H. G. Nash.....	do ".....	418
9 west half only.....	H. G. Nash.....	do ".....	418
20.....	W. B. Stitt.....	Panama, ".....	275
21.....	Angus McIntosh.....	do ".....	279
23 portion east of river.....	George Madge.....	Calgary, ".....	294
23 portion south of Bow river.....	George Bolt.....	do ".....	279
23 portion north of Elbow river.....	Charles Jackson.....	do ".....	219
24 portion south of Bow river except village of Rouleauville.....	Charles Jackson.....	do ".....	219
24 north of Bow river except Secs. 19, 20, 21, 28, 29, 30, 31, 32, 33.....	J. W. Hayes.....	do ".....	216
24 Secs 19, 20, 21, 28, 29, 30, 31, 32, 33 only.....	A. S. McKay.....	do ".....	390

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO
West Fifth Meridian.			
Range 1.— <i>Con.</i>			
Tp 25 except Sec. 6	J. W. Hayes	Calgary, Alta	216
25 Section 6 only	E. H. Riley	do "	390
31	J. B. Schantz	Didsbury, "	227
32	Amander Silverthorne	Olds, "	12
33	Edward Lewis	Olds, "	13
34	Carl P. Anderson	Bowden, "	224
35	J. Robinson, Eagle Ridge	Little Red Deer, Innisfail	67
36 north and west of Red Deer river	Geo. Duncan	Tindastoll, Alta	81
37	John Johnson	do "	382
38	Indridi F. Reinholt	Red Deer, "	454
40	Llewellyn Palmer	Lacombe, "	472
41	Abner Raymond	Bentley, "	480
51	Frank Sieh	Stony Plain, "	25
52	J. B. Butchart	do "	26
53	Israel Umbach	Spruce Grove, "	44
Range 2			
Tp 6 north of South Fork.			
7 west of South Fork	W. A. Borthwick	Pincher Creek, "	362
8 Secs. 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35, 36 only			
9 Secs. 1, 2, 3, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30 only	H. G. Nash	Livingstone, "	418
7 north of Middle Fork.			
8 Secs. 1, 2, 3, 10, 11, 12 only	R. J. Hardy	Gillingham, "	419
22	Joseph Hope	Calgary, "	210
24 and portion 25 south of Bow river	Robert Walsh	do "	209
24 north of Bow river and Secs. 1, 2, 3, 10, 11, 12 in Tp 25	E. H. Riley	do "	390
31	William Hunsberger	Didsbury, "	387
32	E. Bame	Olds, "	14
33	Peter Jaffery	Olds, "	15
36 two east tiers of Secs. only	Geo. Duncan	Tindastoll, "	81
37	Th. Gudmundson	do "	381
Range 3			
Tp 7 Secs. 1, 2, 9, 10, 11, 12, 13, 14, 15, 16, 23, 24, 25, 26, 35 & 36			
8 Secs. 1, 2, 11, 12, 13, 14, 23, 24, 25, 26, 35 & 36 only	R. J. Hardy	Gillingham, "	419
21	James Aird	Millarville, "	282
22	Geo. Young	Priddis, "	206
24 and part south of river of Tp 25	R. H. Wallace	Springbank, "	212
32	James Morphy	Olds, "	54
33	J. B. Edwards	Olds, "	463
54	Wellington Lee	Lac Ste. Anne, "	231
Range 4			
Tp 25 portion north of Bow river and 26	Walter B. Elliott	Cochrane, "	820

List of Local Improvement Districts with Description of and Name of Overseer.—Continued.

AREA	NAME OF OVERSEER	P.O. ADDRESS	DIST. NO
West Fifth Meridian.			
Range 4.— <i>Con.</i>			
Tp 54 north half of, and part south of Lac Ste. Anne of Tp 55.....	Wellington Lee.....	Lac Ste. Anne, Alta....	231
Range 6			
Tp 26 including River lots 1a to 9 inclusive.....	F. M. Graham.....	Morley, "	217
Range 10			
Tp 24.....	Samuel Stirton.....	Canmore, "	267

The Village Ordinance.

Three villages were organised during 1900, making a total of thirty-two villages now organised and administered under the above Ordinance.

The present town of Yorkton, which was included in last year's list of villages, having outgrown the village stage, was granted incorporation as a town at the last session of the Legislative Assembly.

A schedule of the villages, as at present organised under The Village Ordinance, is appended for the purpose of reference.

The introduction of this Ordinance has done much towards putting the many villages in the Territories in a position to undertake the necessary work of improving their streets and providing proper sanitary arrangements and water supply, and the improvement in this regard during the past year in many of the villages has been very pronounced.

The rapid extension of settlement in the Territories is very clearly indicated by the large increase in the small market centres which are organised as villages, and the indications are that the number will be materially added to during the coming year. It is particularly desirable that the residents of these small centres should, in the earlier days of the growth of the place, be empowered to undertake such improvements as will add to the comfort and safety of the residents in such centres and educate them to the system of municipal self government which, as towns, many of these small villages must ere long undertake.

The Village Ordinance is found to meet present requirements with marked success. Its machinery for self government is simple, and the powers granted ample for present needs.

The assessment in organised villages during the past year ranged from two mills at Estevan to ten mills at Rosthern, Okotoks and Cardston, the average rate of assessment being about five and a half mills. The annual returns of the villages show that the taxes imposed have been paid with a fair degree of promptness, but as a number of these returns indicate that considerable sums are outstanding for taxes, and as the villages certainly require the total amount of the assessment to enable them to make

needed improvements, it is suggested that The Village Ordinance be amended at the approaching session of the Legislative Assembly so as to provide the same system for the collection of these overdue taxes as is provided by The Local Improvement Ordinance, and which, as has previously been explained, works most satisfactorily.

The amendment to The Village Ordinance empowering a village, with the consent of the Commissioner, to incur liability by borrowing \$1,000.00 for improvement, has been taken advantage of by several villages, the amounts borrowed in the majority of cases being expended in providing a water supply and fire appliances.

There is no question that protection from fire is one of the greatest needs in all our villages. Like all new western centres, the buildings in villages are largely of wood, and the possibility of devastating fires is always present. Simple and inexpensive appliances, if used in connection with a good water supply, will, in most cases, serve to check fires which otherwise might destroy a large portion of a village, and it is therefore gratifying to note that many of our villages recognise the importance of having some kind of protection from fires.

Several of the organised villages have availed themselves of the provisions of the Ordinance relating to the single tax system, that is, an assessment based upon land values only; and, judging from the results obtained, there seems no doubt that this system is working well. It is strongly urged that this system should be adopted in all the villages, as it is certainly an improvement upon the ordinary method of assessment which involves a large amount of guess work on the part of the assessor in fixing the value of improvements and personal property.

Land values, not only in the villages but also in the towns in the Territories, are easily and accurately determined, and an assessment based upon such values must be more fair and accurate than one based upon values which are largely a matter of opinion.

None of our villages so far seem to have taken advantage of the provisions of the Ordinance empowering them to grant rebate of taxes to property owners planting trees on the streets. It is certain that the adoption of that system, judging by the experience of certain cities and towns in Manitoba, would be productive of good results, and there is nothing which our prairie villages can do which would add more to their appearance and comfort as places of residence, than to encourage in every possible way the planting of trees.

The sanitary condition in all our villages would be greatly improved by the adoption of a proper system of surface drainage, and, as the villages are not in a position to employ the necessary technical assistance to lay out and prepare proper plans for such drainage, it is suggested that a small vote to permit of this work being done by our District Engineers would encourage the construction of such drains by the villages.

Villages.

NAME OF VILLAGE	NAME OF OVERSEER	DATE OF ORGANISATION
Alameda	William Murray	29 December, 1888
Battleford	Robert Jefferson	31 December, 1898
Broadview	Angus McLeod	29 December, 1898
Cardston	Andrew R. Archibald	29 December, 1898
Carnduff	J. H. Taylor	28 March, 1899
Duck Lake	Williar Fawcett	29 December, 1898
Estevan	Henry Yardley	30 October, 1899
Fleming	E. McConnell	23 July, 1896
Fort Saskatchewan	James E. Graham	1 March, 1899 -
Gainsboro	Thomas Fraser	17 June, 1894
Grenfell	J. D. McDonnell	25 April, 1894
Gleichen	John Finnigan	24 January, 1899 -
Innisfail	George E. Bryan	14 December, 1899
Lacombe	Isaac Newson Burdick	12 August, 1896
Lumsden	Andrew Blair	29 December, 1898
Leduc	Karl Martin	13 December, 1899
Maple Creek	David Kearns	9 May, 1896
Olds	William J. Brumpton	8 June, 1896
Okotoks	Alexander McRae	24 October, 1899
Oxbow	Robert Sproule	7 March, 1899
Pincher Creek	A. R. Dempster	7 September, 1898
Ponoka	F. C. Case	22 October, 1900
Qu'Appelle (Fort)	F. S. Proctor	4 July, 1898
Rouleauville	Alex. C. Kettleson, Calgary	30 October, 1899
Red Deer	Arthur B. Nash	14 June, 1894
Rosthern	Alex. McIntyre	29 December, 1898
Saltcoats	W. B. Smithett	16 April, 1894
St. Albert	A. C. Hebert	7 December, 1899
Stafford	Thomas Foster	22 October, 1900
Wetaskiwin	Eugene E. Chandler	4 December, 1899-
Wapella	George E. Nugent	29 December, 1898
Weyburn	Paschal E. Metheral	22 October, 1900

IRRIGATION BRANCH.

Staff	{ Assistant chief engineer Assistant engineer 1 survey assistant 1 draughtsman 1 stenographer and typewriter
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The Irrigation Branch of the Department is charged with the administration of The North-West Irrigation Act and The Irrigation Districts Ordinance, the cost of the Branch being defrayed by a special grant made by the Dominion Government.

The correspondence and administrative work of the Branch is dealt with distinct from the ordinary work of the Department, and the operations of the Branch during the past year are therefore summarised for general reference.

Number of letters received	1,283
Number of letters sent out	1,590
Number of forms and circulars prepared and mailed, ...	3,000
Number of applications for water rights with necessary memorials, plans and notices received, examined and recorded (in duplicate)	20

Number of licences received and recorded (in triplicate).	19
Number of transfers and agreements for use of water received and recorded (in triplicate).....	6
Number of licences of occupation for right of way for irrigation works over Crown lands received and recorded	29
Number of returns, etc., received, recorded and placed on file respecting hydrographic records	461

The 5,873 communications shown by the above statement to have been dealt with in the Irrigation Branch last year are, of course, in addition to the 46,071 communications previously mentioned as having been dealt with through the Correspondence Branch last year, and increases the total volume of Departmental correspondence for the year to 51,994 communications.

The staff of the Irrigation Branch, with the exception of the clerk in charge of the records and correspondence, is employed during the summer months in carrying on the general irrigation surveys, which form part of the work required by The North-West Irrigation Act. These surveys comprise both topographic and hydrographic investigations in all that portion of the Territories comprised within the arid region, as well as investigations regarding the possibility of irrigating certain large areas from distinct sources. The surveys have been carried on continuously for the past seven years, and have resulted in the accumulation of a large amount of most valuable information required in connection with a proper administration of the provisions of the law relating to the use of water for irrigation. These surveys are necessarily of a particularly technical character, and are, in fact, the first surveys of the kind which have been undertaken in Canada. They are, therefore, treated of each year in special and full reports issued through the Department of the Interior, and are only referred to briefly here as forming part of the work of the Irrigation Branch.

In a considerable portion of the arid section of the Territories an unusual rainfall was experienced last season and there was not, therefore, the same amount of irrigation needed as in the usual dry seasons. Good results were, however, obtained by the application of water from the majority of canals and ditches, and considerable extensions to some of the larger irrigation systems were completed. Irrigation is a subject which is purely local in the sense that it is only required in, and of interest to, the residents of the arid region only, but it is one of the most important matters with which the Territorial Government has to deal, as the success and development in that region is largely dependent upon the extension of irrigation. The matter is a difficult one to deal with, because the diversion and use of water for irrigation is practically new in Canada, and the special laws relating to such use require to be framed with great care and administered with equal caution.

Fortunately our laws relating to irrigation in the Territories were passed when the work of diverting water for that purpose was commenced, and as a consequence we have so far been free from the disputes and litigation which have been experienced where such laws have not been passed until water rights have become numerous and conflicting. Considerably over half a million dollars is now invested in irrigation works in the Territories, and the interests involved, embracing, as they do, the many questions relating to title to water, rates charged therefor, division of

water between consumers, title to land affected, and many more of greater or less importance, require careful consideration, as the settlement of these many questions is delegated to the Department by the laws relating to the use of water for irrigation.

Special reference was made in the last Annual Departmental Report to two of the larger irrigation systems in the west, and some information regarding the extension of these systems during the past year may be of interest.

Canadian North-West Irrigation Company's Canal.

The construction of this canal was completed during the past year, the water being turned into the whole system in August. The canal comprises a total length of about one hundred miles, and is designed to supply water from the St. Mary's river for the irrigation of a large area of land in the immediate vicinity of Lethbridge, and to the south and south-east of that point.

The change which the construction of this irrigation canal has already caused in the Lethbridge district is remarkable, and has caused comment even in this western country, where rapid changes are the rule. Thriving villages are now found at Stirling and Magrath on the line of the canal where, two years ago, not a house existed, and the whole district traversed by the canal is rapidly becoming dotted with farms which, in a short time, will prove striking object lessons as to what irrigation will do towards the production of fine farms and successful farmers.

A branch of the Alberta Railway and Coal Company's railway was constructed last summer along the canal from its eastern end at the village of Stirling to near the thriving village of Cardston, and there is every prospect that within five years the district traversed by this canal and railway, a district which up to two years ago was entirely given up to straying bands of range cattle, will be one of the most thickly settled and prosperous portions of the Territories.

The canal company are making colonisation a strong feature of their undertaking, and have already located a considerable number of settlers on the lands under their canal. The certainty of being able to raise bountiful crops every year, and the splendid market for farm produce in the mining districts of British Columbia, which are reached direct from the Lethbridge district by the Crow's Nest Pass Railway, indicates that farming operations on the lands irrigated from this canal must be attended with marked success.

Springbank Irrigation Canal.

The Springbank canal is designed to divert water from Jumping Pound creek and, by means of a main canal some thirty miles in length, to irrigate about 50,000 acres of land lying west of Calgary and between the Bow and Elbow rivers.

This canal is being constructed by the Springbank Irrigation District as a municipal undertaking under the provisions of The Irrigation District Ordinance. This district was organised some years ago, but owing to local troubles they were unable to get their affairs into shape to permit of the construction of the canal being commenced until 1899. In that year they finally commenced the work of construction, but the bad weather interfered

with operations, and that fact, combined with engineering mistakes, prevented very much being done. In the early part of last year, under an agreement entered into between the district and the Department, we provided qualified engineers to locate the canal and design the necessary structures, and contracts for the completion of the whole work were let. The contractor for the earthwork portion of the canal, however, failed in August, and considerable delay was experienced in letting a new contract for that portion of the work. After a new contract was let further delay was caused by the early snowfall and broken weather in the fall, and, although work on the canal was continued until December, only seven miles of canal and a portion of the structures near the point of intake were completed.

The experience of the irrigation States of the United States proves that the best results in the way of irrigation development should be obtained from irrigation works constructed and operated as municipal, or mutual undertakings, but unfortunately many of the irrigation canals constructed in that way have been sadly handicapped by the disputes and mismanagement which characterise so much of the municipal government of this continent.

The Springbank Irrigation District has, I regret to say, been hampered from its inception by internal differences and troubles, and the management of its affairs has not shown that business foresight or care which are so much needed in municipal undertaking. As a consequence the completion of the construction of the district canal and its operation in the near future now seem very problematical.

Your obedient servant,
J. S. DENNIS,
Deputy Commissioner.

1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.

2. Once the problem is identified, the next step is to define the objectives and goals of the project. This helps to clarify what needs to be achieved and provides a clear direction for the work.

3. The third step is to develop a plan or strategy to address the problem. This involves breaking down the problem into smaller, manageable tasks and determining the resources needed to complete them.

4. The fourth step is to implement the plan. This involves putting the strategy into action and monitoring progress to ensure that the objectives are being met.

5. The final step is to evaluate the results of the project. This involves assessing the effectiveness of the plan and identifying any areas for improvement or further action.

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